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ABSTRACT

Designed primarily for World Bank staff and their colleagues in borrowing countries, this paper summarizes why investment in human capital formation through early child development is worthwhile. Chapter 1 introduces the importance of early childhood programs, noting events that have given new visibility to children's issues at the international level. Chapter 2 presents scientific support, socioeconomic reasons, the intersecting needs of women and children, and the synergistic effects of health, nutrition, and stimulation on early childhood development, as rationale for investment in early childhood care and development. Chapter 3 seeks to determine which early childhood programs provide the most reliable outcomes, given the resource constraints of a developing country. It examines program options and programming experiences with projects both inside and outside the purview of the World Bank. Chapter 4 reviews the essential minimum inputs and approaches to packaging such projects. Policy formation and targeting at-risk populations are considered key elements in any early child development strategy. The next chapter suggests three kinds of actions that the World Bank can take: (1) undertake more projects on integrated early child development; (2) support sector work and policy dialogue to assess needs of integrated child services; and (3) fund research and evaluation. The concluding chapter notes that the Bank should increase its lending for early child development investments. The report's three appendices include evidence from developed and developing countries that supports the case for early childhood care, a summary of Bank-financed projects, and examples of projects packaged with different design approaches. (BAC)

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Investing in Young Children

Mary Eming Young

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Foreword

Early child development programs have been pioneered in the developing world for the past two decades. The available evidence suggests that these programs are able to effectively address some of the most vital issues of human development: malnutrition among children under five, stunted cognitive development, and unpreparedness for primary education -- problems that worsen high school dropout rates, low learning achievements, and functional illiteracy.

In addition, early child development projects contribute to the empowerment of women by loosening the child-care constraints to women's participation in the work-force and direct employment creation for the care-takers.

This paper designed primarily for World Bank staff and their colleagues in borrowing countries, summarizes why investment in human capital formation through early child development to survey the available experience and best practices in this area. It concludes that the Bank should increase its lending for early child development investments.

Others who have a professional concern for investing in children in donor governments, international agencies, and nongovernmental organizations, may also find the paper useful in the design, implementation and monitoring of early child development programs.

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Abstract

This paper, designed to inform World Bank task managers, summarizes why investment in human capital formation through early child development is worthwhile. It reviews lessons learned from programs and projects in operation, and examines how such projects can be designed under various conditions.

Early child development programs promote the physiological and intellectual development of young children, helping to ready them for further schooling and a productive role in society. Cumulative research indicates that most rapid mental growth occurs during infancy and early childhood and that on the whole the early years are critical in the formation and development of intelligence, personality, and social behavior. Scientific research indicates that, given the decisive influence of children's early stimulation on physical, psychological, and social development, primary school and even kindergarten programs (for children 4 to 5 years old) can prove to be too late to counteract some physical, neurological, psychological, and social factors closely associated with early deprivation and lack of adequate stimulation.

In addition to the scientific, human rights, economic, and changing social and demographic arguments in favor of early childhood development, investing in such projects combines efficiency and equity, and cuts across traditional human resource subsectors. Investments in such programs can help modify the effects of developmental deprivation. Evidence from the developed and developing world indicates that some interventions can (a) increase the efficiency of primary and secondary education, (b) contribute to future productivity and income, and (c) reduce costs of health and other public services. Indirect benefits from early childhood interventions can include reduction of gender inequities, increased female participation in the labor force, and increased community development efforts.

As a part of its strategy of poverty alleviation, the Bank faces the challenge to assist governments in expanding and sustaining programs of various kinds to improve the development of children. The Bank has gained valuable experience in the development and support of early childhood programs and interventions. However, the Bank can do substantially more. There should also be an expansion of sector work focusing on the needs of young children. More research and evaluation needs to be undertaken, especially in costs and financing, and in the development of monitoring and evaluating instruments. Furthermore, the Bank can collaborate with UNICEF to bring people together from various program sectors and formulate an integrated policy towards human resources development. The Bank should also draw on the experiences of bilaterals and NGOs, such as the Bernard van Leer Foundation, Save the Children, and the Christian Children's Fund. Within the Bank, awareness of the pivotal role of early childhood development in human capital formation needs to be increased, through dissemination of best practices, training seminars, and workshops.

Executive Summary

Many children in the developing world, particularly poor children and girls, are under serious threat of impaired physical, social and mental development. These children, many of whom would not have survived previously, are destined for unproductive, dependent and unrewarding lives unless concerted efforts are made to help them achieve healthy and normal development during their early years. This paper, designed to inform World Bank task managers, summarizes why investment in human capital formation through early child development is worthwhile. It reviews lessons learned from programs and projects in operation, and examines how such projects can be designed under various conditions.

Early child development is a relatively new theme in the Bank. At the end of the 1970s studies commissioned by the Bank recommended the implementation of policies designed to assist poor children by working directly with their families and by stressing educational support to the family unit. Since early eighties, very few Bank projects have addressed this issue.

Starting in 1985, however, the number of free-standing projects addressing early child development has increased markedly. These activities are located within Social Sector, Nutrition, Health and Education Loans. Loans made for early child development were packaged through several program options: (a) parental education focusing on the well-being of children age 0 to 3 as in the 1993 Mexico Initial Education Project and 1990 India Integrated Child Development Project; (b) home day care or center-based day care providing direct services to children age 1 to 6, as in the 1993 Bolivia Integrated Child Development Project and the 1990 Colombia Community Child Care and Nutrition Project; (c) nonformal or formal preschool as in the 1992 Chile Primary Education Improvement Project, the 1992 Ecuador First Social Development Project, the 1990 Venezuela Social Development Project, and the 1991 El Salvador Social Rehabilitation Project; and (d) social communications, as in the 1993 Nigeria Development Communications Project.

Early child development programs promote the physiological and intellectual development of young children, helping to ready them for further schooling and a productive role in society. Cumulative research indicates that most rapid mental growth occurs during infancy and early childhood and that on the whole the early years are critical in the formation and development of intelligence, personality, and social behavior. Scientific research indicates that, given the decisive influence of children's early stimulation on physical, psychological, and social development, primary school and even kindergarten programs (for children 4 to 5 years old) can prove to be too late to counteract physical, neurological, psychological, and social factors closely associated with early deprivation and lack of adequate stimulation.

The demand for programs focused on early child development and education is increasing as a result of increased need and improvements in both knowledge and experience. In addition, three international events have given new visibility to children's issues and show a new awareness by international donors of the importance of early learning, while giving additional impetus and commitment to children on the part of governments. The Convention of the Rights of the Child was adopted by the United Nations General Assembly in November 1989. The World Summit, held at the UN in September 1990 bought rapid commitment to the principles of the convention and set in motion specific processes for setting national goals and for monitoring progress toward improved health, education, and other aspects of children's rights. The World Conference on Education For All, held in March 1990 under the sponsorship of the World Bank, UNDP, UNICEF, and UNESCO, affirmed that "learning begins at birth" and incorporated early childhood care and development through family involvement and community interventions into efforts to improve basic learning.

In addition to the scientific, human rights, economic, and changing social and demographic arguments in favor of early childhood development, investing in such projects combines efficiency and equity, and cuts across traditional human resource subsectors. Investments in such programs can help modify the effects of developmental deprivation. Evidence from the developed and developing world indicates that some interventions can (a) increase the efficiency of primary and secondary education, (b) contribute to future productivity and income, and (c) reduce costs of health and other public services. Indirect benefits from early childhood interventions can include reduction of gender inequities, increased female participation in the labor force, and increased community development efforts.

As a part of its strategy of poverty alleviation, the Bank faces the challenge to assist governments in expanding and sustaining programs of various kinds to improve the development of children. The Bank has gained valuable experience in the development and support of early childhood programs and interventions. However, the Bank can do substantially more. It can begin encouraging an add-on approach to existing programs while promoting the development of integrated, multisectoral programs. There should also be an expansion of sector work focusing on the needs of young children. More research and evaluation needs to be undertaken, especially in costs and financing, and in the development of monitoring and evaluating instruments. Furthermore, the Bank can collaborate with UNICEF to bring people together from various program sectors and formulate an integrated policy towards human resources development. The Bank should also draw on the experiences of bilaterals and NGOs, such as the Bernard van Leer Foundation, Save the Children, and the Christian Children's Fund. Within the Bank, awareness of the pivotal role of early childhood development in human capital formation needs to be increased, through dissemination of best practices, training seminars, and workshops.

International experiences indicate that early child development projects require intensive training and supervision to ensure program quality and effectiveness. Experience also suggests that family and community participation increase the chances of program impact and sustainability. Programs need to be flexible and adjusted to local conditions and distinct cultural needs. Active participation of NGOs and community groups, from the design stage through program implementation and evaluation, is a crucial way to ensure cultural relevance and appropriateness. Finally, programs should try to reach the largest possible number of children at risk while taking into account implementation capacity and ensuring program quality.

An emerging strategy in programming for early child development services thus involves a deliberate, focused, phased approach. It requires not only political commitment and resources, but also flexibility, continuous leadership and supervision capable of fitting programs to existing environmental and organizational and material needs within available resources. Much more can be done by the Bank to promote these interventions, especially integrated multisectoral early child development programs. The opportunity is there for the Bank to help countries use early child development programs to improve the well-being and working capacity of their populations and the likely contribution of the new generations to societal development.

Chapter One

INTRODUCTION

"A child is born without barriers. Its need are integrated and it is we who choose to compartmentalize them into health, nutrition, or education. Yet the child itself cannot isolate its hunger for food from its hunger for affection or its hunger for knowledge." (Alava, 1986, in Myers, 1992b)

Over the past two decades, attention to and demand for early childhood programs has grown worldwide as a result of (a) and increasing number of parents employed outside the home in environments where the presence of young children is neither desirable nor practical; (b) a steady improvement in children's survival, so that the society can begin to look at broader issues of quality of life; and (c) a recognition that early childhood experience can have significant effects on subsequent development, especially schooling.

Not only are more children surviving, but social changes have created conditions that require new ways of thinking about child care and development. Changes such as concerns with social equity and increased participation of women in the labor force necessitate looking beyond ensuring child survival and providing custodial care. These concerns now include programs that provide for the child's physical, emotional, and intellectual development. Converging on nurturing and stimulating the capacities of the "whole child," early childhood programs have also gained recognition as valuable aids in fostering community participation and school readiness.

At the international level, three events have given new visibility to children's issues and have highlighted institutional and organizational challenges for early childhood programs at the national level. The 1989 UN Convention on the Rights of the Child, the 1990 World Conference on Education for All, along with its 1993 follow-up, the Education for All Forum, emphasized the importance of early childhood care and development programs, the conferences also drew attention to the links between the welfare of children and community development, the changing role of women, poverty alleviation, and school performance. These meetings have heightened the awareness of the international donor community and governments alike of the importance of early learning and have led to greater commitment by both to early childhood programs.

This growing awareness is critical because children in the developing world, in particular poor children and girls, are under serious threat of developmental deprivation. Fortunately the scientific and operational means of ending or reducing deprivation appear both available and affordable. In the past two decades the Bank and other multinational agencies (UNICEF, UNESCO, and NGOs such as the Bernard van Leer Foundation, Aga Khan, and Save the Children), along with national governments, have examined data and gathered the experience needed to design effective early childhood programs.

Early child development comprises both caring for the basic health and safety needs of children and providing for the multidimensional growth of their mental, emotional, and social development. Child care, that is custodial provisions, and child development, the social and psychological stimulation of children, should not be considered separately. Programs that provide childcare should also incorporate child developments goals. Similarly, programs designed to enhance early development must consider the needs of families. In short, programs must respond to the complete well-being of the child. This approach involves the family and the community.

Evidence suggests that early investments in development of the whole child can bring improvements in the life of a child and provide benefits to the entire society. Cumulative research indicates that most rapid mental growth occurs during infancy and early childhood and that on the whole the early years are critical in the formation and development of intelligence, personality, and social behavior. Scientific research indicates that, given the decisive influence of children's early stimulation on physical, psychological, and social development, primary school and even kindergarten programs (children 4 to 4 years old) can prove to be too late to counteract some physical, neurological, and social factors closely associated with early deprivation and lack of adequate stimulation.

A variety of such programs exist. There are traditional preschool and kindergarten settings that are often part of the formal education system. However, issues of cost and affordability have di-

rected attention to nonformal program models. In addition, concern with educating parents and caregivers and with the community environment of the child has led to increased interest in the nonformal models and their linkage with an earlier tradition of community development. Initiatives that help organize communities around their own perceived needs often focus on providing for the community's children. Early childhood care and development programs that represent this nonformal community development model have been implemented in countries as diverse as India (Integrated Child Development Services), Colombia (the Hogares Communitarios or Community Homes), Kenya (the national Harambees or Let's Pull Together movement), Brazil (the Creches Comunitarias or Community Nurseries), Jamaica (Community Study and the backyard nurseries), the United Kingdom (the Playground Movement), and Venezuela (the Hogares de Cuidado Diario or Daily Care Homes).

Projects such as these aim to provide care and foster the development of young children. In addition they encourage participation on the part of the community, thereby increasing its autonomy and lessening its dependence on outsiders (be they donors or national governments). These nonformal programs provide services and education in ways that can motivate parents to greater involvement in their own children's growth and development, thus helping to secure the sustainability of the benefits of early intervention. The challenge is to identify the effective components of these often small-scale or pilot programs and expand them into efforts with national or regional coverage. Considering the evidence regarding the benefits of early interventions and the accessibility and affordability of many nonformal programs, efforts to meet that challenge are certainly warranted. Increasing international and national attention to early childhood programs also calls for expanded Bank involvement in them.

But it is important to stress here that differences in the cultural and economic milieu caution against assuming that workable solutions in one country will be equally effective in another. Therefore instead of emphasizing a single program model, it is more appropriate to identify a range of effective models. Even within countries, great care must be taken to identify target populations and help beneficiaries define their needs and devise programs to meet them. For example, formal center-based programs, while perhaps suitable for urban middle-income populations, may not be suitable on a large scale in low-income countries. On the other hand, enrichment programs aimed at caregivers and using parental and community resources can be implemented at low cost and greatly improve both the well-being and learning environment for most children.

Primarily designed for World Bank task managers, this report summarizes why investment in human capital formation through early child development is worthwhile. It reviews lessons learned from programs and projects in operation, and examines how such projects can be designed under various conditions. Discussion will be limited to the nonformal approach. Chapter 2 summarizes the rationale for investment in early child care and development. Chapter 3 examines program options and programming experiences with projects both inside and outside the Bank. Chapter 4 reviews the essential minimum inputs and approaches to packaging such projects. Chapter 5 suggests how the Bank can strength its role in this area. Chapter 6 concludes.

Chapter Two

RATIONALE FOR INVESTMENT IN EARLY CHILD CARE AND DEVELOPMENT

Research concerning the importance of early child development to learning and success in life for low-income children began a few years before the advent of the Head Start program in the early 1960s in the United States in a series of specially designed and controlled projects.[1] Later, evaluation studies were funded to study the impact of the Head Start program, and these two streams converged into a remarkable demonstration of long-term effectiveness (Lazar and Darlington, 1982). The basic findings conclude that early childhood development can improve the lives of low-income children and their families, and that it can enhance the quality of life for the community as a whole (Schweinhart et al., 1993).

A body of evidence has emerged that supports the case for early childhood care and development in both the developed and the developing countries. The results of programs reviewed suggest that participation in preschool and initial education programs targeting infants and toddlers and preschool programs can improve the child's school readiness skills. Other benefits include the lowering of primary school enrollment ages, reduction of repetition and dropout rates, and improvement of academic performance. Traditionally disadvantaged groups (girls, rural children, and children from families with low socioeconomic status) appear to receive the most beneficial effects. Parental involvement in programs also appears to strengthen the positive impact of early childhood interventions. Annex A summarizes this supporting evidence from developed and developing countries.

[1] This section draws heavily from Robert Myers, The Twelve Who Survive, and the World Bank report, Mexico--The Initial Education Strategy (report no. 10129-ME), which both provide a comprehensive literature review on the scientific and socioeconomic rationales for investment in early child development.

SCIENTIFIC SUPPORT

Scientific evidence indicates that 50 percent of the variance in intellectual development is established by age four. Inadequate intellectual stimulation and affective care, coupled with early malnutrition, are likely to result in severe and possibly irreversible damages to physical and emotional capacities. The development of these capacities is crucial to further learning. Because of the importance of the early years, elementary schooling and even kindergarten may be too late to develop these capacities in children.

The most rapid mental growth occurs during infancy and early childhood, and on the whole, early years are critical in the formation and development of intelligence, personality, and social behavior. Because infancy is a period of unusually rapid maturation and sensitivity, a high degree of environmental stimulation is needed for the development of secure conceptual structures and social relationships in later life.

Debates about early childhood development have evolved in the past twenty-five years as research have begun to document the effectiveness of quality day care programs on the lives of disadvantaged children. In the United States the first wave of studies from the late 1960s to the mid-1970s questioned whether early intervention could have any lasting positive effects. As initial skepticism was overcome, a second wave of studies in the 1980s investigated whether different program models could have different effects on a young child's development. The current focus is on identifying the essentials of effective, small-scale programs and their expansion into national programs.

SOCIOECONOMIC RATIONALE

Efficiency. Early childhood education can increase the return on primary and secondary school

investments.[2] It can also contribute to human capital formation, raising participants' productivity and income levels and reducing public expenditures (by lowering welfare, health, and education costs). In the U.S. Perry Preschool Program, initiated in 1962, a US$1 investment has yielded US$7.16 in savings because of lower educational and welfare expenditures and higher productivity among participants (Schweinhart, 1993). Similarly, studies carried out in Asia, the Middle East, and particularly Latin America suggest that early childhood education increases school readiness skills, promotes timely school enrollment, lowers repetition and dropout rates, and improves overall academic skills. For example, evaluation of Brazil's Programa de Alimentaçao de Pre-escolar (PROAPE) showed that by reducing the extra primary schooling cost associated with repetition, a program of integrated attention to preschool children more than paid for itself. Myer's (1992a) review of nineteen longitudinal evaluations examining the effect of early interventions in Latin America reveals that children who participated in early childhood programs experience lower repetition rates in primary education.[3] The beneficial impact of early education is particularly pronounced among the traditionally disadvantaged groups (girls, for example, and children with rural, indigenous, and lower-level socioeconomic backgrounds).

Early child development programs can facilitate increased primary school attendance where older siblings have been forced to drop out of school to act as supplementary caregivers for younger children. In a study of school attendance for children age 7 to 14 in Brazil in 1980, Psacharopoulos and Arriagada (1989) found a highly significant negative effect of the number of younger siblings age 0 to 6. Bittencourt (1979) found that girls in a Salvador favela missed more school than boys because they were more often needed at home to help with chores.

Early child programs can also serve as vehicles for extending primary health care. Evidence suggests that health- and nutrition-related programs are positively associated with physical growth, basic cognitive abilities, school readiness, and positive classroom behavior. Early child development programs that support families' health and nutrition needs by teaching them how to provide consistent care are helping children avoid sickness and malnutrition as well as develop the readiness to participate in school and the community. For example, a ten-year study in Mexico has demonstrated the negative effect of severe malnutrition on school readiness and of lack of home stimulation on language development (Chavez and Martinez, 1981). Furthermore, Glewwe and Jacoby (1993), in their analysis of the Ghana Living Standards Survey found evidence that delayed primary school enrollment is a consequence of nutritional deficiencies in early childhood. The authors argue that early childhood nutrition interventions can lead to substantial increases in lifetime wealth. Because a child's physical growth can be influenced not only by food intake but also by how well the child is developing socially and psychologically, early child programs that emphasize developmental aspects along with health and nutrition interventions can benefit a child's physical growth and basic cognitive abilities (Zeitlin, 1990).

Early child development programs can also result in cost savings on health expenditures. On the average, an estimated 70 percent to 85 percent of the developing world's total health spending, public and private, goes for curative care. Between 10 percent and 29 percent is spent on preventive care and the remaining on community services. Within the curative sector, hospitals often account for more than 80 percent of the cost. Yet it is well known that preventive and community services are far more effective in reducing morbidity and mortality (World Bank,

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[2] Research accumulated during the 1970s and 1980s showed that attainment of even a few years of schooling is associated with important changes of economic value in individual skills (see, for example Selowsky, 1981). By increasing early abilities, preschool programs increase earnings out of a given level of schooling and the net benefits from additional schooling induced by a higher rate of return to schooling. Investment in education, in particular primary education (associated with early stimulation and sensorimotor readiness), yields a higher rate of return on the money spent than does secondary or higher education (Psacharopoulos, 1985).

[3] Of the nineteen studies, ten contain comparative information about enrollment, fourteen about school progress (promotion, repetition, dropout), and fourteen about school performance.

1993). Through the education of parents and early care of children, health care costs can be cut by preventive measures that reduce disease and accidents, thereby avoiding more expensive treatments.

Early child development can also support health and nutrition initiatives. For example, in the Colombia Community Child Care and Nutrition project and the Bolivia Integrated Child Development projects, children participating are required to complete their immunization within six months of entry to project day care centers. The program also can facilitate growth monitoring and provision of food supplementation and micronutrients. When linked with existing governmental public health programs such as mass immunization, early child development services provide an effective way to augment these programs.

Social equity. There is ample evidence that investing in human capital, especially in early development, also attacks some of the most entrenched causes of poverty. A large part of cognitive achievement differentials between lower socioeconomic and higher-income groups can be attributed to the malnutrition, lack of sanitation, and low levels of psychological stimulation common among poor children. All of these factors can be positively affected by education. Early child development interventions can help reduce societal inequalities rooted in poverty by helping to provide young children from disadvantaged backgrounds with a more equitable start in life and a foundation for further schooling. This is especially important for those living in rural and urban marginal areas, where education and health and sanitation services are either remote or do not exist.

But what is important to stress here is that the advantages of early childhood interventions are especially apparent for girls. Discrimination in education begins early in some cultures--female primary enrollment rates, for example, are less than 50 percent of those of boys in many African countries. Strategies to improve girls' participation include attention to their readiness for primary school. Early childhood programs can be an important aid in helping to overcome discriminatory barriers and gender inequalities that already exist at the time of first entry into school.

The benefits of early childhood programs for girls are of particular importance because women's schooling is often a better predictor of health and reproductive outcomes than other household-level variables such as family income and husband's occupation. The expansion of female school enrollment seems to offer an attractive policy solution to the reduced pace of improvement in life expectancy, child health, and fertility control in developing countries (LeVine, 1994). Studies from diverse cultures show that girls who participate in early childhood programs are better prepared for school and more likely to attend and continue in school. Furthermore, because these girls are often successful at school, parents often change their expectations, allowing them to continue their education. And since it is well documented that educated women take better care of their children, early interventions targeted at girls can strengthen the possibilities that they will stay in school longer, which can later result in reduced maternal fertility and reduced infant and child mortality.

INTERSECTING NEEDS OF WOMEN AND CHILDREN

Increasing numbers of households headed by women and of working women has created a major need for safe child care. There is substantial female participation in the labor force throughout the developing world in the formal sector. The highest level of female labor force participation is in Southeast Asia and East Asia where 50 percent to 60 percent of the women age 15 and older are economically active. In sub-Saharan Africa the percentage is slightly below 50 percent. In Latin America and the Caribbean more than 30 percent of women are economically active. Actual labor participation is certainly much higher if informal sectors are also included; however there is a lack of such data that is comparable across the regions. With the traditional family structure changing, more women have growing (and sometimes sole) responsibility for supporting their families. In Latin America and the Caribbean, almost 30 percent of households are headed by women. In sub-Saharan Africa the share is more than 20 percent, while in East and Southeast Asia 15 percent of households are headed by women.

In light of these facts, child care needs are increasing dramatically. Studies of women's labor force participation and types of jobs taken usually show an inverse relationship between the number of young children at home and the probability that the mother is employed (Landers, 1992). There is a vi-

cious circle, particularly in the cities, in which low-paying jobs prevent mothers from purchasing adequate child care, and the absence of adequate child care prevents mothers from seeking more stable, higher-paying employment. This problem is particularly acute in resource-poor households where the effect on families of not working is worst. Provision of subsidized care that meets women's needs could help to break this circle, raising earnings and productivity and benefiting both women and children. Providing day care is important. With care available, women are mobile between the home and the labor market. It is also a prerequisite to women's attaining some degree of equality with men in the labor force and to having an opportunity for additional learning and education. Moreover, the availability of child care has the potential to increase the productivity of self-employed women as well as the productivity of those engaged in agricultural activities.

Yet many child-centered programs do very little to respond to the needs of working women. These programs often provide services for too few hours a day. For example, the Integrated Child Development Service (ICDS) of India focuses mainly on pregnant women and does not address child care needs. Revisions are being made to extend hours and to cover younger children. Quite different from the ICDS, India's Mobile Creches is a program tailored to meet the needs of working women. The service is located at construction sites to provide day care for female construction workers with small children. In Senegal's Animation Feminine Project, female rural agricultural workers take turns providing care to groups of children. In Nepal a similar program, the Project Entry Point, has been working successfully since 1989.

Child care and development services not only serve as means to improve women's productivity, but can also serve as a direct means to generate income. Adoption of home-based day care models provides direct employment opportunities for substantial numbers of women. Credit schemes have been developed to provide women with access to finances needed in establishing child care as an income-earning activity. Innovative schemes have been designed in Nepal, for example, to extend credit on the basis of group guarantees rather than individual guarantees. The Colombia and Bolivia home day care programs provide credit to women, allowing them to make structural improvements in their homes so they can be used as home day care locations. The credit is at a favored rate, and family or community members can be paid to make the improvements. Moreover, in Bolivia the project secures preferential fees to maternal health care in collaborating public and private health centers.

SYNERGISTIC EFFECTS OF HEALTH, NUTRITION, AND STIMULATION ON EARLY CHILD DEVELOPMENT

Child development cannot be broken up into separate domains. A child's learning capacity depends on an interactive process of health, nutrition, and child-caregiver interaction. The latest research on the relationship between health, nutrition, and stimulation argues convincingly that an adequate food supply is not enough to ensure a child's survival. Growth and development are fostered when all these variables are present within a caring environment. Moreover, children have different needs as they develop through the distinct stages from infancy to toddler to preschool age. The younger the child, the more difficult it is to differentiate the physiological and psychological factors within the environment that govern health. As the child becomes a toddler, environmental cleanliness, encouragement to eat properly and vigilance for the child's safety are of utmost importance. For example, growth may falter because of inadequate nutrition, but slow growth is also linked to the way young children are fed. Feeding is more than giving children food; it includes the interactive process that accompanies the intake of food. In addition, a caregiver's interaction with a child is critical to a child's later development. Early childhood development programs can be the entry point of giving instruction to caregivers regarding the health, nutrition, and developmental needs of children.

In summary, the rationale for investment in early childhood development programs is undeniable, on the grounds of equity, efficiency, and effectiveness. While there is no single social program that can address all the problems faced by families living in poverty, support for early development programs yields tangible benefits not only for children and parents but also for the community. Individual deficits caused by early malnutrition and inadequate care can ripple throughout society, affecting labor productivity and economic development. Early interventions can help ready children for a productive role in society.

Interventions in the early years of childhood offer a rare opportunity to address a number of intersecting concerns. Properly designed and implemented, such programs can have multidimensional benefits, including (a) enhancing school readiness, (b) increasing the efficiency of primary school investments and human capital formation, (c) fostering beneficial social behavior, thus lessening social welfare costs, (d) stimulating community development, and (e) helping mothers become income earners.

Chapter Three

WHAT CAN BE DONE?

Financing early child development programs is the joint responsibility of families, communities, and the government. While no single social program can address all the problems confronted by families living in poverty, evidence from both the developed and developing world indicates that early child development programs can be an extremely useful intervention in mitigating many of the complex and persistent problems of poverty. Therefore, given limited resources, investment in early child development services with public funds should target children living in poverty. These children are at high risk of environmental deprivation, malnutrition, and lack of essential basic health care.

We will now turn our attention to determining which early child development programs provide the most reliable outcomes, given the resource constraints of a country. Governments must consider which populations have priority for services, how services should be delivered and resources used, and which needs of children and families should be addressed. Above all, sensitivity to local culture and customs is necessary to ensure the implementation and sustainability of any early childhood program. Political considerations can make it difficult to justify devoting scarce resources to the support of very young children while older children are not adequately provided for. To counter such arguments, it is important to note that directing resources to very young children will result in better-prepared school-age children, thus enhancing school effectiveness and the efficiency of primary school investments.

BANK EXPERIENCE WITH EARLY CHILD DEVELOPMENT

The position within the Bank with respect to early child care and development is changing. At the end of the 1970s studies commissioned by the Bank recommended the implementation of policies designed to assist poor children by working directly with their families (Grawe, 1979) and by stressing educational support to the family unit (Smilansky, 1979). A review carried out by the Bank of its involvement in early child development in August 1985 indicated that very little was being done directly. Social sector investment projects focused heavily on the nutritional and health status of children. Early child development was included only as part of more comprehensive projects during the early 1980s.[4]

Since 1985 the number of free-standing projects has increased markedly. These activities are located within Social Sector, Nutrition, Health and Education Loans. A review of ongoing projects in the Bank is summarized in Annex B. Loans made for early child development were packaged through several program options: (a) parental education focusing on the well-being of children age 0 to 3 as in the 1993 Mexico Initial Education Project and 1990 India Integrated Child Development Project; (b) home day care or center-based day care providing direct services to children age 1 to 6, as in the 1993 Bolivia Integrated Child Development Project and the 1990 Colombia Community Child Care and Nutrition Project; (c) nonformal or formal preschool as in the 1992 Chile Primary Education Improvement Project, the 1992 Ecuador First Social Development Project, the 1990 Venezuela Social Development Project, and the 1991 El Salvador Social Rehabilitation Project; and

[4] In all, 35 activities were identified that provided one of the following: food supplementation, health and nutrition screening or services, education for preschoolers, and creche or day care services. These activities were found within the Health, Population and Nutrition and Urban Departments. Among the programs aimed at children, 15 included food supplementation, 20 health and nutrition screening services, 5 education for preschoolers, and 6 creche or day care. Among programs aimed at caretakers, 4 were training programs, 9 included adult education on children, and 15 were home visiting programs. Construction of child care centers was supported in 14 activities and of community centers in 8 (Myers, 1992).

(d) social communications, as in the 1993 Nigeria Development Communications Project. Box 3-1 gives examples of these approaches in packaging early child development projects.

The shift toward greater attention to early child development reflects the changing socioeconomic conditions and the field's evolving knowledge base. Within the Bank the prevailing wisdom in the mid-1980s, as presented by Smilansky (1979), was that giving priority to preschool interventions could not be justified.[5] Smilansky noted that "traditional" kindergartens do not seem to protect disadvantaged children from lagging behind or failing in school and that although preschool programs might increase IQ, most studies showed a "washout" effect in the early years of primary school. Programs that might produce longer-term results were dismissed as infeasible because it was believed that such programs would be too expensive or sophisticated.

However, evidence accumulated since 1985 no longer supports these assertions. Longer-term effects of quality preschool programs have been identified. Furthermore, the measure of program effects has expanded from an almost exclusive focus on IQ to other indicators, including educational performance and social behavior of children. Moreover, many less expensive non-formal alternatives to the formal traditional preschools criticized by Smilansky have been found to be very effective at outside the home or within homes, mainly in urban and peri-urban areas, and they involve the training and support of families (Myers, 1992a).

By 1993 a number of Bank country education strategy papers recognized the importance of early child interventions and included early child development programs as inputs into effective primary schooling. These papers include:

- "Education and Sub-Saharan Africa" (World Bank, 1988);
- "Child Care in Metropolitan Brazil" (World Bank, 1990);
- "Mexico's Initial Education Strategy" (World Bank, 1992);
- "Indonesia's Education Strategy" in the Country Economic Memorandum (World Bank, 1993); and
- "ESP's Education Overview" paper (forthcoming).

THE ESSENTIAL PACKAGE FOR THE WELL CHILD

Research indicates that the most effective early child development programs seem to be those that include proper nutrition, health care, and psychosocial stimulation and interaction between the child and the caregiver. Psychosocial stimulation would include socio-emotional development, self-concept, and self-esteem; motor skills development; and language skills. These plus health, nutrition, and child-caretaker interaction, have a synergistic effect on a child's growth and development from birth onward.

The inputs required to meet a child's basic needs at different ages are summarized in table 3-1. It is possible to establish early child development program activities appropriate to stages or levels of a child's development because human development follows a general set pattern, notwithstanding the fact that the process will vary from individual to individual and culture to culture. These stages correspond to certain age groupings: the prenatal period; infancy (birth to 1 year, which encompasses weaning, learning to walk, and early language development); the toddler and posttoddler period (1 to 3 years, during which a child's coordination, language, ability to think, and social skills advance rapidly); the preschool period (3 to 6 years, when coordination is relatively well developed and when cognitive development and development of preliteracy skills occur rapidly, along with greater attention to relationships with peers); and the period of accommodation to school and the world at large (6 to 8 years).

[5] The Smilansky paper did not make use of the second wave of studies conducted in the 1970s, which focused on whether different program models could have different effects on the young child's development. His references were from the 1960s and included the 1969 Westinghouse study on Head Start. However, the paper had a significant effect in directing the Bank away from early child care and education.

Box 3-1: Examples of Early Child Development Projects

A. Project Design Fousing on Delivery of Services to Children--Bolivia's Integrated Child Development Project

The project targets poor households in urban and periurban areas according to a set of criteria that identifies poverty zones, and within the zones high-risk children (malnourished, of single parents, of parents who work and are without child care, and of high-parity families). The project supports the development of almost 9,000 day care centers to provide nonformal, home-based integrated child development services to more than 200,000 children age 6 months to 6 years. Caregivers from the community are selected and training is provided to enable them to respond to early education, nutrition, and health care needs of the children. The caregiver receives a credit (mixed loan-grant) to finance the rehabilitation of her home, which serves as the day care center. At the day care center, children receive nutrition supplementation, a basic package of education services, and through cooperative agreements with local health centers, access to key preventive and curative health care. Each center, staffed with two to three trained caregivers, will serve a group of 15 children between 6 months and 6 years of age. The typical center will operate 8 hours a day, 5 days a week, and 12 months a year. Pregnant women who are either caregivers or have children participating in the project receive maternity care and family planning services at preferential fee rates from the health clinics.

Each caregiver receives a monthly stipend, equivalent to the minimum salary, financed under the project. Part of the costs associated with the day-to-day operation of the center would be covered by parents' payments equivalent to US$2.25 a month per child. The fee decreases when additional siblings attend the center. The project also supports development of a management information system to monitor and evaluate project implementation performance and impact. The project costs US$50.7 million, which finances training, staffing, funding to rehabilitate the home sites, equipment for day care centers, including furniture and educational materials, and equipment and program costs of monitoring and evaluation. Food-related costs totaling about US$50.2 million (58 percent of recurrent costs) are secured through food aid programs. The project will be implemented over a 6-year period during 1994-1999.

Source: Bolivia Integrated Child Development Project, World Bank Staff Appraisal Report no. 11905-BO, June 7, 1993.

B. Project Design Focusing on Dducating Caregivers--Mexico's Initial Education Project

The project targets the most disadvantaged subpopulation groups in rural and urban areas in ten states in Mexico. Through the use of indicators for age group 0 to 3, indigenous population, and school performance, ten states were identified. The project aims to improve quality and efficiency of nonformal initial education through educating mothers in home-based childrearing practices. The project centers on the training of parents. About 900,000 parents would be trained, through periodic group meetings and home visits with the help of comprehensive illustrated guidebooks and other educational materials, to teach mothers skills for caring and stimulating children for cognitive, psychosocial, and social development. Basic health and nutrition education are also included as content of teaching materials. Parents are trained by community educators, each of whom works with 20 families, forming a project nucleus. Ten nuclei make up a module and receive technical inputs through a module supervisor; and up to 10 modules are grouped as a zone that is monitored by a zone coordinator. The community educators are locally selected and are paid a stipend. The community educators provide the participating parents two forms of training: periodic group meetings (80 hours total over a period of 5 to 8 months) and home visits (once every 2 weeks). Radio programs with both promotional and educational content are broadcast regularly by local stations to disseminate the project and motivate families to participate. The project finances training; design and production of education materials, and a package of audiovisual materials and tools including flip charts, leaflets, and tape recordings; and technical assistance to design an educational management information system and an evaluation system. Even though children age 0 to 3 are the intended beneficiaries of the project, they do not participate directly in the educational activities, except during the home visits. The parents are the direct participants in the educational process. The project amount is US$80 million, implemented over 5 years during 1993-1997.

Source: Mexico Initial Education Project, World Bank Staff Appraisal Report no. 10821-ME, August 10, 1992.

C. Project Design Focusing on Strengthening Social Communications--Nigeria's Development Communications Project

The project pilots the use of mass media in early child development, targeted to preschool children (3 to 6 years old) in rural and urban areas. The project will reach 4 million preschoolers of whom 36% already have access to television, and for those who do not, the project will target children in child care centers in fifteen local government authorities in ten states. The project supports (a) design, production, dissemination, and evaluation of instructional materials to preschoolers and women, and (b) development of institutional capacity for materials production and educational television management and evaluation. Dissemination of instructional materials is carried out by the distribution of videos through network transmission, video on wheels, and local viewing centers for on-site viewing and sales of video materials. The newly established Educational Television Unit of Nigerian Television Authority will produce 130 episodes for preschool children with curriculum topics including development of language expression and comprehension; skills to observe, explore, and solve problems; prenumeracy, preliteracy, and social behavior skills; and basic health and hygiene habits. The project costs US$10.23 million, which finances the production and distribution of instructional materials, institutional capacity building of the educational television unit (including building, staff, and equipping the unit), and technical assistance for testing and evaluation of the media model. The project will be implemented during 1994-1998.

Source: Nigeria Development Communication Pilot Project, World Bank Staff Appraisal Report no. 11236-UNI, February 9, 1993.

The content of a developmental curriculum would vary based on the developmental differences of the three age groups.

- For infants (birth to 1 year). This would include (a) interaction with caregivers (talking to the child, active feeding, touching, showing affection), and (b) provision of objects to play with (look at, hear, smell, and taste).
- For toddlers (1 to 3 years). This would include (a) the opportunity to actively explore a safe environment, play with objects and games,[6] (b) interaction with other children and with adults to socialize (learning cooperation, helping and sharing). Adults need to read and engage in conversation with the child, and (c) developing gross motor skills in a place where children can safely play actively (running, jumping, climbing, playing with balls).
- For preschoolers (3 to 6 years). This would include (a) engaging in simple problem solving tasks, (b) developing self-care skills (dressing, feeding) and social skills (interacting with other children and with adults), and (c) telling stories, associating the written with the spoken language, and drawing and making their own pictures.

APPROACHES IN PROGRAM DESIGN

Several approaches can be used to deliver early child development interventions. In this paper the nonformal approaches are emphasized because of their affordability and greater flexibility. These approaches can have different immediate objectives and can target different audiences and participants while still being designed to aid early child development. Annex C provides examples of different project designs. The majority of early child development programs and projects outside and within the Bank all follow one or more of the following approaches (table 3-2):

- Delivering services to children. This approach, which is usually center-based but can also be home-based, focuses on attending to the immediate needs of children. Examples include Bolivia's Integrated Child Development Project (see box 3-1), Colombia's Child Care and Nutrition Project, and India's Integrated Child Development Project.
- Training caregivers and educating parents. This approach informs parents and caregivers of methods that aim to improve the quality of care and interaction the child receives, thereby enriching the child's environment and development. Examples include Mexico's Initial Education Project (see box 3-1) and Chile's Parent and Children Program.
- Promoting community development and assisting women in development objectives. This strategy stresses community initiative, organization, and participation to create a basis for political and social change to improve conditions that adversely affect child development. Colombia's PROMESA project is one example. Usually, extensive involvement and assistance from nongovernmental organizations helps sustain such initiatives by engaging the community in active participation and ensuring sensitivity to local cultural needs. In addition, helping mothers provide safe and affordable care for their children can offer women the opportunity to pursue work outside the home. Also, mothers can gain income-generating opportunities by establishing child care facilities for the community in their homes. The Colombia Community Child Care and Nutrition Project and the Bolivia Integrated Child Development Project are examples.

[6] These objects do not have to be toys or other special purchased equipment. Suitable objects can be things found in the local environment such as pots, pans, cooking utensils, and containers that children can use in a variety of ways to learn about relationship and problem solving.

Table 3 - 1. Basic Needs and Required Inputs

Age	Basic Needs	Inputs
Birth - 1 year	•Protection from physical danger •adequate nutrition •Adequate health care •Attachment with an adult •Motor and sensory stimulation •Appropriate language stimulation	•Safe shelter •Food and micronutrients •Basic health care (immunization, ORT, hygiene) •Age-appropriate developmental curriculum*
1-3 years	In addition to the above •Support in acquiring motor, language, and thinking skills •Develop independence •Learn self control •Play	•Safe shelter •Food and micronutrients •Basic health care (in addition to the above, deworming) •Age-appropriate developmental curriculum*
3-6 years	In addition to the above •Opportunity to develop fine motor skills •Expand language skills through talking, reading, singing •Learn cooperation, helping, and sharing •Experiment with prewriting and prereading skills	•Safe shelter •Food and micronutrients •Basic health care (in addition to above-mentioned deworming) •age-appropriate developmental curriculum*

Source: Based on Donohue-Colletta (1992).
*The content of developmental curriculum would vary based on the developmental differences of the three age groups as discussed in the earlier

- Strengthening institutional resources and capacities. This approach strengthens the institutions responsible for implementing early childhood programs. Kenya's Early Education Centers exemplify this approach. In addition, Bank projects in Bolivia, Mexico, and Nigeria have a secondary objective of strengthening institutional capacity for the implementation of early child development interventions.
- Strengthening public awareness and demand. This approach focuses on the production and dissemination of information necessary to create awareness of, and demand for, early childhood services from parents, community leaders, and policymakers. Nigeria's Development Communications Project is one example (see box 3-1).

Two additional important factors influence and facilitate the successful implementation of early child development services. These are (a) the development of national child care and family policies and (b) a legal framework supportive of increasing awareness of rights and legal resources for women and children. Family policies supportive of women and children can include providing parents with increased time and resources to meet their childrearing and child care responsibilities. Supportive legal frameworks include better monitoring and enforcement of labor legislation and regulations to protect both working children and working women with infants and young children. Establishing mechanisms to implement ILO conventions for working mothers with young children would, for example, go far toward helping to develop supportive family policies and strengthen legal protection from women and children.[7]

[7] Protection of maternity and reproduction are covered in the Maternity Protection Convention no. 103 and no. 95. The convention allows time for rest during the last week of pregnancy, care for the newborn, and a continuous source of income and employment security after the delivery. Convention no. 156 covers equal opportunities and equal treatment for men and women workers with family responsibilities, including changes in the arrangement of working time, parental leave, leave to care for a sick child, and childcare services.

Table 3-2. Early Childhood Care and Development - Program Strategies*

Program Approach	Participants and Beneficiaries	Objectives	Models and Examples
1. Deliver a service	• The child: 0-2 years and 3-6 years	• Survival • Comprehensive development • Socialization • Improvement of child care	• Home day care (Colombia, Bolivia) • Integrated child development centers (India,Brazil) • "Add-on" centers (Ghana, Senegal) • Preschools (formal or nonformal) (Peru)
2. Educate caregivers	• Parents, family • Sibling(s) • Public	• Create awareness • Change attitudes • Improve or change practices	• Home visiting (Indonesia, Peru) • Parental education (China) • Child-to-child programs (Jamaica, Chile)
3. Promote community development	• Community • Leaders • Promoters	• Create awareness • Mobilize for action • Change conditions	• Technical mobilization (Malaysia) • Social mobilization (Thailand)
4. Strengthen national resources and capabilities	• Program personnel professionals, paraprofessionals	• Create awareness • Improve skills • Increase material	• Training (Kenya) • Experimental demonstration projects • Strengthening infrastructure (Nigeria)
5. Strengthen public awareness and demand	• Policymakers • Public • Professionals	• Create awareness • Build political will • Increase demand • Change attitudes	• Social marketing (Jamaica) • Ethos creation • Knowledge dissemination (Nigeria)
6. Develop supportive legal frameworks	• Working women with young children • Working children	• Increase awareness of rights and legal resources • Increase use of ILO legislation • Increase monitoring and compliance of international conventions	• Workplace (Brazil) • Day care facilities • Protective environmental standards (India) • Maternal leave and benefits (Colombia) • Support breastfeeding for working mothers
7. Develop national child care and family policies	• Families with young children	• Encourage family-sensitive employment practices	• Innovative joint public/private arrangements (India, Colombia) • Tax incentives for formal, quasi-formal private enterprises

Source: Consultative Group on Early Childhood Care & Development (1992).

*Annex C contains description of some of these projects.

Chapter Four

POLICY AND PROGRAM ISSUES

It is difficult to balance the desire for integration with the need for simplicity in program design. Yet there is a need to broaden the interface between programs of early childhood development and primary schooling, adult education, women issues, health care and nutrition, and community development. Integration should not be forced on the different sectors. The goal is to respond to the needs of the child in an integrated way, but not necessarily by achieving the integration of delivery systems. Thus the emphasis needs to be on the convergence of programs on the child and the family. One way this integration can be reached is through a convergence of services on the child, achieved over time by adding components to existing sectoral programs of nutrition, health care, or education.

This section presents some issues and lessons learned from international experience on pilot and larger scale projects,[8] and from country-level policies and programs on child care and development focusing on nonformal approaches.[9] The review serves as a starting point to assess issues in designing early child development programs and how to address them. The review points to the following as key elements in any early child development strategy:

- Policy formation.
- Targeting at-risk populations.
- Family and community participation.
- Cost and financing.
- Organization and management.
- Quality interventions.
- Training and supervision.
- Monitoring and evaluation.

POLICY FORMULATION

For a program on early child development to be successful and sustainable, it needs to be embedded in an overall policy (or set of programs) that focuses on human capital formation in general and the development of the child in particular. To date, only a few developing countries have a policy on early child education, let alone a policy on child care and development. For example, in Peru the education reform of 1973 made the Ministry of Education responsible for the education of children from 0 to 5 years. The ministry responded by establishing preschools, experimenting with programs on parent education, and supporting occasional local initiatives involving center-based child care using community volunteers. In India, since 1975 a national policy for children has led to the establishment of the National Children's Board whose main functions are to provide a focus for education and welfare and to improve coordination of all essential services. As noted in the previous section, the implementation of the ILO convention on working mothers would help create an enabling environment for the formation of policies for children.

The exact scope and content of a policy would vary, depending on needs and resources of a country. Some basic elements of a policy would include:

- emphasis on children in economically disadvantaged populations;
- provision of integrated services for the development of the whole child, including health care, nutrition, and psychosocial stimulation; and
- the role of early childhood services as vehicles for social development.

[8] The review is based on reports prepared by multilateral organization (UNICEF, UNESCO) and NGOs (Bernard Van Leer Foundation, Aga Khan Foundation, Save the Children).

[9] Two recent publications provided multi-country comparisons. One, edited by Patricia Olmstead and David Weikart (1989), presents fourteen national profiles. These profiles are the first step in phase one of an ambitious project aimed at assessing the quality of children's experiences in different national settings and the effects of those experiences on child development. A second, edited by Moncrieff Cochran (1993), provides a comprehensive overview of policies and programs in twenty nine countries in Africa, Asia, Latin America, Oceania, Europe, and North America.

It is easy to underestimate the implications of setting a policy focused on the whole child. Such a commitment might require reassessing national priorities, which countries find difficult to do. However, mere adaptation of a policy by itself without translating it into practical time-bound programs will not achieve much. It is essential is to find out whether there is enough political will to address children's growth and development.

TARGETING AT-RISK SUBPOPULATIONS

Early child development programs should aim at reaching the largest possible number of children who are at risk. Children living in poverty and in communities with the highest prevalence of malnutrition are at risk for delayed or debilitated mental, social, and emotional development. While children 3 to 6 years old should be targeted for school readiness, the effects of proper nutrition, health care, and psychosocial stimulation are most critical at earlier ages, even under 2 years of age. Therefore interventions for children younger than 2 years of age are essential.

The targeting mechanisms that Bolivia's Integrated Child Development Project uses include (a) a selection of urban and periurban neighborhoods for program sites based on poverty mapping and (b) child-specific selection criteria within these neighborhoods (children who are malnourished, with single parents or parents employed but without child care, and from high-parity families). This targeting mechanism depends on the availability of census or socioeconomic development data such as availability of clean water, sanitation, and electricity. Nutritional surveillance can also be used as a mechanism to identify communities at risk of malnutrition. Targeting all children in these communities might be more efficient than targeting individuals or families at risk.

Mexico's Initial Education Project targeted disadvantaged populations in ten of the poorest states according to a poverty index based on the following proxies: (a) population of children age 0 to 3 years, (b) indigenous population, (c) primary education completion, (d) preschool coverage, and (e) marginality indicators computed by the National Population Council. All proxies were homogenized by converting them to a scale of 0 to 100 (the higher the index, the greater the level of marginality). A composite index was then computed from a weighted average of the five indicators.

For targeting to be successful, it is extremely important to state the program aims clearly from the outset. They must tell participants and beneficiaries how and what a program will (and will not) contribute to the community. Selecting appropriate indicators to evaluate the implementation, sustainability, and impact of programs is essential.

FAMILY AND COMMUNITY PARTICIPATION

Experiences suggest that family and community participation increase the chances of program impact and sustainability. Moreover, mobilization of local support and effective use of both nonprofessional and professional personnel are crucial to sustainable programs. For successful mobilization it is important that the community understand the need for the program, whether it be food supplementation or child stimulation. Most parents even in the poorest communities are willing to provide whatever resources they can spare to support programs for their children, especially when those programs meet a need they recognize and value. The pilot project of community homes in Colombia is a good example of effective community participation. However, the program lost some of the initial community support as government expanded the successful pilot program nationwide, partly because parents and communities started to view the program as an initiative introduced from outside. This experience underscores the need for community involvement and the development of a strong sense of ownership.

Even though community participation is essential, there are limitations. It is difficult to sustain a community's interest and enthusiasm over time without proper incentives. Moreover, local monitoring units need to be accountable. Setting up mothers' cooperatives, in which mothers take turns caring for children, can be sustainable depending on the opportunity costs of the women's time. For example, this procedure was feasible in Nepal's Project Entry Point where there was no alternative option for safe child care. However, the strategy was not successful in Bangkok, where turnover of the home centers was high. There, mothers left as soon as they were offered a better-paying job.

Family involvement is critical to early child services. This refers not only to parents' participation

on committees or in organizing for political action, but also to having parents become "captivated" by their own children, supportive of their learning, and committed to the idea that their children matter. Studies indicate that parental education is an important component in the success of early child programs. This education should go beyond lectures on child development to include educational efforts on matters of more immediate interest. This is evidenced by successful programs such as the U.S. Head Start and Turkey's Comprehensive Preschool Education Research Project. Kagitcibaci (1987), in evaluating the Turkish study, observed that mothers who participated in the training program were more optimistic and likely to share in decisions and activities with their spouses than those who had not participated. Another example of a novel program of parental education was developed in Turkey, where employers allowed groups of working women to meet for an hour once a week on company time for a training course focusing on the cognitive development of their children.[10] These meetings proved of benefit not only to the children but also to the women, helping them change their outlook and acquire additional authority within their own families.

COST AND FINANCING

How much do early child care and development programs cost? While some studies from developed countries indicate the cost per child of services, such information is mostly lacking for developing countries. Furthermore, there is a lack of data on the cost in relation to the benefits to the child, mother, and community and on the cost of different child service inputs in generating a desired outcome. There are various ways of financing early child development services, but there is a lack of a systematic review on this topic. Moreover, to date way to sustain programs also lack systematic review.

The cost elements of early child development services include buildings, equipment (ranging from audiovisual and music equipment to simple objects to play with), weighing scales, supplies (food), and staff training and salaries. Using homes with minimal rehabilitation has resulted in considerable cost reduction. Any home that can provide a safe space and has minimum sanitation facilities and a kitchen is sufficient. For example, in the Colombia and Bolivia projects, small credits are provided to participating home care mothers to renovate their houses. Supplies (food in particular) are the most costly of all the inputs in the program, accounting for up to 40 percent of total program costs. Food is often provided through the government (for example the Ministry of Agriculture) or through international donors such as the World Food Program. Ensuring a sustainable supply and timely delivery of food supplements to the programs can be logistically difficult and requires close supervision. It is estimated that the cost of neighborhood day care, home-based and with mothers' participation, is one-fifth of the cost per child cost of the more formal integrated child care centers in operation in the past.

There are some examples that compare costs and indicate the participants' ability to pay. India's Integrated Child Development Service costs US$22.00 per child per year (1989 prices), about one- fifteenth of a minimum wage or one-fifteenth of the per capita GNP. ICDS is probably the largest program of integrated service in the developing countries, covering an estimated 11.2 million children from birth to 6 years of age and 2 million pregnant and lactating women in rural and peri-urban areas. The program includes nutrition supplements, health care, and preschool education interventions for children, and education and referrals for women. The paraprofessional (Anganwadi) who runs each local center is trained (3 months initially, plus periodic refresher courses) and is supported by a helper and a supervisor at a ratio of about 1 to 20. The Peru Nonformal Program of Initial Education (PRONOEI) costs US$40 per child per year (1985 prices), including all monetary contributions from the government and from international sources and in kind community contributions. Costs per child would drop to US$28 if the in-kind community contribution were omitted. The ratio of costs to minimum wage is 1 to 14 and of costs to GNP per capita about 1 to 40. PRONOEI covers an estimated 60,000 children 3 to 5 years old.

[10] Locating ECD facilities at the workplace can be an effective strategy for facilitating female participation in the labor force. Legislation in many countries require employers above a certain threshold of workforce to provide child care facilities. However, community based child care is sometimes preferred by mothers over workplace care because of a variety of factors including the need for extensive employee travel time.

The children, in groups of 25 to 30, gather for several hours four or five mornings most weeks of the year. Children receive food and participate in physical, mental, and social development activities. The paraprofessionals in charge receive initial training of 10 days to 2 weeks and periodic refresher training. Chile's Parents and Children Project (PPH) costs US$77 per child annually (1985 prices), at a ratio of 1 to 5 of the minimum wage, or 1 to 18 to GNP per capita. PPH is a smaller project than the Indian or Peruvian ones, reaching 50 communities at the time of evaluation in 1984 and 200 communities in 1992. The program focuses on parental education. Twelve topics representing local needs related to development of children 4 to 6 years old have been converted to radio broadcasts and are presented once a week to families in communities, who gather together to listen. A local promoter leads discussions with the parents after the radio broadcast (Myers, 1992b).

Child care can easily absorb one-fourth to one-half of women's salaries in industrialized countries. Who pays? Families together with governments have to identify mechanisms to finance early childhood programs. In developing countries it might have to be heavily subsidized to be at all accessible to families who may be spending almost their entire income on food, housing, and transportation to work. However, shifts in the financing of care toward more use of parents' fees are occurring in a number of countries. For example, participating parents are expected to contribute on a sliding scale according to family income in Colombia's Community Child Care and Nutrition Project. In Bolivia's Integrated Child Development Project all parents pay the same fee, B10 (US$2.50 in 1993) a month for the first child, but the fees per child are decreased as the number of children enrolled from the same household increases. Some countries have sought innovative solutions. For example, Colombia raises funds to subsidize child care by levying a 3 percent payroll tax on all employers with more than a certain number of employees. The cost is also kept relatively low by using the neighborhood home day care model. Ecuador finances early child programs by earmarking a certain percentage of its export and import taxes. In Thailand loan funds are established in selected rural villages, using funds from the Christian Children's Fund. When loans are paid back, the resources go into a capital fund to be used on a continuing basis for the support of an early childhood development program in the community. In Santa Catarina, Brazil, the governor requested all departments to indicate in their budgets what they had included to benefit children. From this he established an intersectoral budget directed toward children (Myers, 1992b).

Further research needs to be carried out to assess the extra costs associated with different kinds of services for children. In addition, there is a need to compare the cost and benefits of integrated early child development services vis-à-vis other public programs. The extent to which the public pays for the early child services is indicative of the weight the state gives to the importance of the services. The share of cost paid privately is, in part, an indication of the importance accorded by families to the early child services. In The Economics of Early Childhood Services (1982) Psacharopoulos reviewed the trend of public expenditure by several developed countries. Despite the variation in the share of public and private contributions, they tend to increase, albeit only a little, over time. This has also been true in Japan, Italy, Denmark, and Belgium. This raises the issue of the optimal level of services for children and the finance of the associated costs. Selowsky (1981) derived a percentage of GNP to be devoted to programs for preschool children for a range of country per capita income levels (table 4-1). He based his estimates on the increased learning ability of children enrolled in early child development programs. This ability in turn increases school performance and the years of schooling attained. The economic benefits of these investments in human capital become apparent in increased productivity and earnings.

Table 4-1. Percent of GNP Devoted to Preschool Children

Investment per child divided by per capita income	Country per capita income (dollars per year)			
	$200	$400	$600	$1000
0.55	2.2	2.2	--	--
0.45	1.8	1.8	1.8	--
0.35	1.4	1.4	1.4	--
0.25	--	--	1.0	1.0
0.15	--	--	--	0.6

Source: Selowsky (1981).

Note: assuming a target population of 25% of total population

In 1981 Selowsky estimated that between 1.4 and 2.2 percent of GNP should be devoted to early child development programs in countries with annual per capita incomes of less than US$400. For higher per capita GNPs the range is between 0.6 and 1.8 percent.[11] However, it should be noted that a specific percentage of GNP allocated to early child development may not be appropriate in all countries. For example, in Africa such allocation would not be affordable.

OPERATING THE PROGRAM

Early child development programs have been devised by and are operated under the mandate of a variety of national ministries, including education, welfare, health, labor, social affairs, women's affairs, and agriculture. The rationale for each ministry's involvement differs, and the types of programs each promotes also differ. Government involvement occurs at national, regional, county, or local levels, or at some or all of them.

There are several country examples how to operate these programs. Bolivia, Colombia, and Chile have established a modified centralized administrative system based on a specialized agency with local offices. In India the National Children's Board is the central agency. Its functions are to provide a focus for children's education and welfare and to ensure continuous planning, review, and coordination of all essential services for children. Projects such as the Integrated Child Development Services Project are directed centrally through the Human Resources Ministry and administered by state governments. These arrangements appear to be effective.

Numerous nongovernmental organizations (NGOs) have also actively supported and implemented early child development services in developing countries. While the potential for these groups to expand their services to young children varies, nongovernmental involvement nevertheless has often been a key element in encouraging community participation. The Bank could help to foster collaborations on ECD programs between government and NGOs. Some possibilities include transferring funds directly to NGOs or contracting with them for specific program tasks or for work in particular areas. Additional NGO involvement is needed. For example, they have been useful in assisting regional and local governments develop the managerial capability necessary to undergo the transition toward decentralized administration and management. NGOs can also assist in supervising projects.

DELIVERY OF QUALITY INTERVENTIONS

In developing countries, shortages of human and financial resources limit the extent to which child care programs can be used to implement a developmental or educational curriculum. For example, programs in India are oriented mainly toward safekeeping and survival, while early education is an explicit and a proactive policy of programs in Kenya and Zimbabwe. Experts on early child development such as Osborn and Milbank (1987) suggest that "provided the child receives proper care, has interest-

[11] Selowsky's figures are based on an assumption of a target population of 25% of total population.

ing activities and other children to play with, the actual type of preschool experiences matters very little." Yet, child care advocates favor shifting to the more educational approach. Supporters of the educational approach suggest that failure to adopt a specific theoretical viewpoint or curriculum model has been identified as a cause of poor quality education. A successful program in any setting needs to adopt a specific curriculum and theoretical viewpoint to govern the delivery of the service. Once such a decision is made, training of staff can be focused on exact methods, the program can be evaluated based on existing standards, the actual interactions and activities can be judged, and wide application can be undertaken. If programs are general or only a collection of good ideas, quality cannot be maintained and outcomes are not consistent. Adopting a specific valid delivery model is the essential step to an effective program. As of yet, evidence from the developing countries does not allow us to say much about the effect of different approaches. Evidence from the United States and England suggests that the specific curriculum used is not the most important variable as long as the application is consistent and of good quality.

There are at least three basic theoretical approaches or curriculum models on which to base the design of quality programs (table 4-2). This excludes custodial care, which should not be considered as a model for early child development services. On the surface the cognitive developmental approach resembles that of the traditional nursery school approach; both emphasize play and a child-centered environment. But in the cognitive developmental approach, teachers are trained in the use of questioning strategies and in curriculum design that will challenge children's thinking with regard to specific logical-mathematical concepts.

TRAINING AND SUPERVISION

Training and supervision are important ingredients to a successful program, no matter what the differences are among developing countries. Training is needed to reorient professionals and nonprofessionals toward an integrated approach to early child development and to provide project implementors with required skills. It is necessary to document local knowledge, attitudes, and practices regarding child care, diets, food habits and beliefs, and children's games. This information will provide resource material on which training manuals can be based. There is also an ongoing debate over relative merits of approaches that run from heavy emphasis in Europe on college-based pre-service preparation for caregivers to the almost exclusive in-service training found in developing countries. Training of family day care mothers is carried out largely with in-service methodologies. For example, in Bolivia's Integrated Child Development Project, 40 hours of preservice training and 2 weeks of applied experience in day care are used as screening tools to select educators or caregivers. This type of solution is probably most practical in developing countries, where it may be counterproductive to insist on standards that undercut worthwhile initiatives that do not meet prescribed educational prerequisites. Such standards may exclude motivated and qualified paraprofessionals who do not have the formal training.

In addition to initial training, continuing training in the form of supervision is an important determinant of the quality of programs. Bolivia's Integrated Child Development Project has a good detailed supervision plan in its project design. During the four-month start-up phase in each community, a high supervision ratio was built in, with one regional technical staff person (together with an external supervisor from a local NGO or university) to ten home day care centers to carry out regular biweekly training and supervision visits during each center's initial two months. This is reduced to one visit a week for the subsequent two months, and twice a month in the six-month follow-up phase. In the consolidation phase the regional technical staff visits each center at least once every two months and the external supervisor (responsible for a maximum of twenty centers) would carry out, at a minimum, one monthly visit to each center.

MONITORING AND EVALUATION

Monitoring and evaluation should be critical parts of each project. Typically, program evaluation--if attempted at all--focuses on a description of program development and includes data about the number of participants and the extent of the service and a description of the content of service. Sample design and quality control of project evaluation are

Table 4-2. Theoretical Approaches to Early Child Education

Teacher	Child–	
	Active	**Passive**
Active	**Cognitive developmental approach** (Based on the constructivist theory of Piaget)	**Didactic instruction approach** (Behaviorist model of didactic instruction and systematic rewards)
Passive	**Traditional play-based nursery school approach** (British Infant School movement)	Custodial care (not considered as an approach)

Source: Based on Roopnarine (1993).

the main culprits. Rarely does an evaluation include some type of experimental design or comparison or control groups. The usual pattern is to set up a sample that is inadequate for the purposes of evaluation. Study findings are of little help for judging the effectiveness of the program or advising policymakers. Poorly designed evaluation schemes do little to substantiate a project's merit. For example, the Colombia project based the sampling design on a comparison of children in the program for less than three months with those in for more than over one year. Because of probable systematic differences in the two groups, familial self-selection for continuation or withdrawal, and the fact that no comparison was made of children that did not participate in the programs, it is impossible to say anything about the effectiveness, let alone the efficiency of the program. In contrast, Bolivia's Integrated Child Development Project establishes at project outset a built-in evaluation scheme.[12]

Since quality of supervision is the key to success, evaluation instruments need to be designed to measure the qualitative aspects of the intervention. In the Bolivia project, participants and nonparticipants are monitored through semiannual household surveys, including monitoring of health, nutritional status, and child development. Outcome variables for children will be based on anthropometrics, immunization status, psychosocial development (using a development scale adapted for Bolivia), and schooling characteristics, including age at entry, repetition, dropout, performance, and behavior. For participating mothers the outcome variables will be based on assessment of personal health, labor force participation, educational level, childrearing knowledge, and self-esteem. Finally, since the quality of supervision in intervention programs is a key to success and needs standardization, an evaluation instrument is to be designed to capture the qualitative aspects of supervision.

Taking the above considerations into account, and based on the (sometimes limited) available evidence, the following guidelines are judged vital for the implementation of a quality early child development program.

1. Design a program that responds to the complete needs of a child's physical and psychosocial development (that is health care, nutrition supplements, and education services).[13]

2. Target subpopulation groups at risk--children living in poverty and in communities with the highest prevalence of malnutrition--to reach

[12] In the Bolivia project, household surveys of nonparticipants and participants will be carried out as part of ongoing project activity. An impact evaluation system has been designed to document (a) how well it targets children, women, and families at high risk; (b) how participation affects the development and well-being of children, women, and communities, and (c) the extent to which participation in this project improves the subsequent progress and performance of children in primary school.

[13] These services need to be embedded in an overall policy framework that focuses on human capital formation in general and the development of the child in particular.

the largest possible number of children who are at risk.

3. Promote extensive parental and community involvement and encourage communities to develop a strong sense of ownership of the programs. Moreover, communities' interest needs to be sustained over time with proper incentives.

4. Employ a quality curriculum that has been validated through research and is appropriate for the age of the child and the culture of the family and society.

5. Provide systematic in-service training based on the curriculum selected. In addition to initial training, continuing training through supervision is an important determinant of project quality and success.

6. Develop objective evaluation criteria and use appropriate instruments to monitor and evaluate the effectiveness of the program. Develop feedback mechanisms to incorporate results of evaluations into ongoing programs. Involve parents and the community into this process, making sure that criteria are transparent and that the process and outcomes are widely disseminated.

Chapter Five

WHAT CAN THE WORLD BANK DO?

There are at least three kinds of action that the Bank can undertake: (a) do more projects on integrated early child development in Bank lending program; (b) support sector work and policy dialogue to assess needs of integrated child services in relation to other public programs and enhance public awareness; and (c) evaluate conduct research and evaluate programs. In addition, the Bank should seek to develop and strengthen its partnerships with other international and nongovernmental agencies which have an accumulated experience in developing and implementing early childhood interventions. Among UN agencies, UNICEF has been a leader both in early child development operational experience and in promoting the rights of children. The Bank needs to collaborate with UNICEF to bring people together from various program sectors to formulate an integrated policy towards human resources development, to evaluate studies on cost and financing early child programs, and to provide technical guidance and to analyze, monitor and evaluate integrated early childhood programs. The Bank should also draw on the experiences of bilaterals and NGOs, such as the Bernard van Leer Foundation, Save the Children, the Christian Children's Fund. Within the Bank, awareness of and concern for pivotal role young children play in economic development need to be increased.

DO MORE PROJECTS ON INTEGRATED EARLY CHILD DEVELOPMENT

As cost proves to be one of the most serious obstacles to the development and operation of early childhood programs in developing countries, mobilization of new resources together with efficient use of available resources is critical. To date, the Bank has made fourteen loans through the human resources sector to such programs, and several more are in various stages of preparation. More needs to be done. This kind of projects combines efficiency and equity, and cut across traditional human resource subsectors. One way to do so is through add-on programs. International experience indicate that add-on programs can be an effective approach to introduce an early child development component to sectoral projects in nutrition supplement, education, and maternal and child health care.

Introducing early child development interventions within the health care and nutrition supplement sectors can be implemented through, for example, incorporating psychosocial development information into training and maternal and child health care components. Health education programs, especially when delivered through mass media, should stress the young child's need for cognitive stimulation and affective care. Programs that bring parents and caregivers together to provide nutritional supplementation, growth monitoring, and nutrition education can usually provide an entry point for delivering early education interventions. Home visits, intended to monitor nutrition and health status, can also provide opportunities to talk with parents about the mental and social development of their children and expose parents to age-appropriate development activities.

In the education sector, primary projects can support child-to-child components in which children at school learn to care for their younger siblings. The Jamaican Child-to-Child Program, targeted at children 9 to 12 years old, has demonstrated that parents also benefit from the information about health, nutrition, and cognitive development brought home by their children. This intervention has a multigenerational impact as it influences the targeted children, their siblings, and their parents. It also is intended to influence the behavior of these children once they themselves become parents. In addition, the content of adult education and literacy programs should incorporate information about the needs of young children.[14]

The Bank can also strengthen its support of communications strategies to deepen public awareness of early child development. There is wide recognition throughout the Bank of the critical role of

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[14] This paragraph draws heavily upon LATHR paper no. 32, "Early childhood Development Programs in Latin America: Toward Definition of an Investment Strategy."

communications in such social sector programs as child survival, family planning, safe motherhood, and improved water quality and sanitation. Now more resources are needed to disseminate information about child development.

SUPPORT SECTOR WORK AND POLICY DIALOGUE

Sector work should focus on (a) a child's needs in terms of nutrition, health care, and schooling, using such indicators as anthropometric measures, infant and child mortality and morbidity data, immunization coverage, primary school enrollment, age of enrollment, dropout and repetition rates, completion rates, and male-female differentials; (b) work should also review existing and proposed child-oriented policies, programs, and projects; assess their synergies and complementarities; and formulate policies that foster the integrated approach to child developments; (c) finally, sector work should identify gaps that can be addressed by additional or adapted policies (including changes in the legal framework, where needed) and by Bank-funded projects. In addition, the Bank should assist governments to develop national child and family policies. Along with informing the public, special attention should be directed toward informing policymakers at national and regional levels and disadvantaged communities where children are at risk. The mass media can also deliver developmental curriculum to children and their families. Mexico's Initial Education Project and Nigeria's Development Communications Project are two examples in the Bank's lending portfolio that channel information through mass media (see box 3-1).

FUND RESEARCH AND EVALUATION

The Bank's own capacity to fund this activity needs to be strengthened. Within the Bank, information from staff from different programs and sectors should be solicited in order to formulate policy and identify technical assistance to analyze, design, monitor, and evaluate integrated early childhood programs. In addition, the following topics need urgent attention:

- Assessment of the marginal social costs of different kinds of services for children. To do this, longitudinal studies are needed at various locations in developing countries. Such studies could be based on existing Bank projects. However, the evaluation would need to extend beyond the project loan cycle of five or seven years. It would also be necessary for the evaluation to set up comparison groups to control for a range of non-project variables.
- Creation, validation, and establishment of instruments to measure children's integral development in contexts appropriate to developing countries, that is, beyond those currently available, which are mostly limited to children's health care and nutritional status. In Latin America and the Caribbean, work has already started on developing instruments to measure children's integral development. A child development scale designed by Nelson Ortiz at UNICEF in Colombia has been applied in selected settings in Colombia and has been tested and adapted to Bolivia's Integrated Child Development Project. A child school readiness scale needs to be developed to help assess the strength of early child development programs and readiness of young children to enter the formal school system.
- Evaluation of various financing schemes currently used in developed and developing countries and assess their sustainability.
- Conduct of social communications research to identify what motivates parents and communities into demanding, participating in, and paying for early child services.

Chapter Six

CONCLUSION

Early child development programs promote the physiological and intellectual development of young children, helping to ready them for further schooling and a productive role in society. During the past two decades, nonformal early childhood interventions have been proved cost-effective and sustainable. The beneficial impact of these programs is particularly pronounced among traditionally disadvantaged groups (girls, for example, and children with rural, indigenous, and lower socioeconomic backgrounds).

Investments in such programs can help modify the effects of developmental deprivation. Evidence from the developed and developing world indicates that some interventions can (a) increase the efficiency of primary and secondary education, (b) contribute to future productivity and income, and (c) reduce costs of health and other public services. Indirect benefits from early childhood interventions can include reduction of gender inequities, increased female participation in the labor force, and increased community development efforts.

As a part of its strategy of poverty alleviation, the Bank faces the challenge to assist governments in expanding and sustaining programs of various kinds to improve the development of children. The Bank has substantial experience in the development and support of early child programs and interventions, and additional support is currently being planned. The Bank can increase its focus on such efforts. It can begin encouraging an add-on approach to existing programs while also promoting the development of integrated, multisectoral programs. Lending to support the needs of young children should be sharpened. There should also be an expansion of sector work focusing on the needs of young children. More research and evaluation needs to be undertaken, especially in costs and financing and the development of monitoring and evaluating instruments.

International experiences indicate that early child development projects require intensive training and supervision to ensure program quality and effectiveness. Experience also suggests that family and community participation increase the chances of program impact and sustainability. Programs need to be flexible and adjusted to local conditions and distinct cultural needs. Active participation of NGOs and community groups, from the design stage through program implementation and evaluation, is a crucial way to ensure cultural relevance and appropriateness.

Finally, programs should try to reach the largest possible number of children at risk while taking into account implementation capacity and ensuring program quality.

An emerging strategy in programming for early child development services thus involves a deliberate, focused, phased approach. It requires not only political commitment and resources, but also flexibility, continuous leadership, and supervision capable of fitting programs to existing environmental, organizational, and material needs within available resources. Much more can be done by the Bank to promote the interventions, especially integrated multisectoral early child development programs. The opportunity is there for the Bank to help countries use early child development programs to improve the well-being and working capacity of their populations and the likely contribution of the new generations to societal development.

ANNEX A: EVIDENCES FROM DEVELOPED AND DEVELOPING COUNTRIES

DEVELOPED COUNTRIES

Perry Preschool Study, U.S. The Perry Preschool study is based on a program of early intervention in the lives of low-income children who were at risk of school failure. Between 1962 and 1967, 56 children, aged 3-4 from Ypsilanti, Michigan, received two years of preschool education (2.5 hours per day) coupled with weekly home visits. Information on participants, and a control group was collected annually while the children were between years 3-11 and again at ages 14, 15, 19, and 27.

One-third as many program group members as noprogram members graduated from regular or adult high school (71% vs. 54%). At age 27, four times as many program group members as noprogram group members earned $2,000 or more per month (29% vs. 7%); one-fifty as many program group members as noprogram members were arrested (7% vs. 35%).

A benefit-cost analysis was conducted by estimating the monetary value of the program and its effects, in constant 1992 dollars discounted annually at 3%. Dividing the $88,433 in benefits per participant by the $12,356 in cost per participant results in a benefit-cost ratio of 7.16 returned to the public for every dollar invested in the High/Scope Perry program. By increasing the number of children per caregiver from 5 to 8, the program's cost per child could be reduced to $5,500 with no loss in quality or benefits. The National Head Start Association's Silver Ribbon Panel recently recommended this same cost per child for Head Start.

Head Start Program, U.S. This large scale program, began in the U.S. in the 1960s to prepare children from poor families to enter school by compensating for poor home conditions. A review of 71 research reports on this program found evidence of its positive effects on IQ, on developed abilities at point of entry into school (school readiness), and on achievement at the end of the early grades. One of the factors critical in determining the success of Head Start was parents' involvement in training their own children.

The Child Health and Education Study, U.K. The study covered 9,000 children, many of whom had participated in preschool experiences outside the home, and followed them into school. Differences in educational attainment were found to be associated with participation in a preschool experience. Sometimes, the preschool effect seemed to hold, even though the time of participation was relatively brief. The study concluded that provided the child receives proper care, has interesting activities and other children to play with, the actual type of preschool experience matters very little (Osborn and Milbank, 1987).

Infant Health and Development Program (IHDP), U.S., is a multisite, randomized clinical trial designed to evaluate the efficacy of an comprehensive early intervention program in reducing the developmental and health problems of low birthweight and premature infants. Families who participated were randomly divided into an intervention group and a follow-up group. Both groups received pediatric care, including periodic assessments of health and developmental status and referrals as indicated. The intervention group received specialized child development and family support services, provided in three ways: regular home visits from an early childhood education specialist, enrollment in a special child development center, and parent meetings. The intervention group showed a large and highly significant difference in cognitive development compared with the groups that received pediatric follow-up only. Average improvement in IQ scores was from 6 to 13 points, depending on birthweight. Mothers of intervention group children reported significantly fewer behavior problems, particularly those that predict later difficulties in school. Positive effects on children's families are that mothers of intervention group children were more supportive and provided more assistance when their children were placed in problem-solving situations.

DEVELOPING COUNTRIES

Two approaches that are used in assessing the impact of early childhood programs are by looking at programs addressing early childhood develop-

ment through education, and through health and nutrition. Myers (1992a) summarized 19 studies evaluating the impact of initial and preschool education program in developing countries (annex A, table 1). Of the 19 studies, 10 contain comparative information about enrollment, 14 about school progress (promotion, repetition, dropout), and 14 about school performance.

Education

School readiness. The studies reviewed and summarized in annex A table 1 suggest that participation in early childhood education programs enhances the child's level of school readiness, which is broadly defined to include cognitive, motor, and social skills. In five out of the seven studies evaluating this variable, there were significant improvements in the child's school readiness skills, while two studies revealed no significant changes in the area. Studies also imply that increases in school readiness are greater for younger participants and in the areas where the child is most deficient.

In the Peruvian Project PORTAGE rural participants experienced significant improvements in verbal and cognitive skills, but not in motor skills, in comparison with their control group. Likewise, urban children from a relatively more cramped, but less isolated environment, saw significant improvements in cognitive and motor skills, but not in verbal skills with respect to their control group.

A four-year research project conducted in low-income areas of Istanbul, Turkey, studied the impact on the overall child development of educational preschool care combined with a program of parental education and support (Kagitcibasi, Sunar, and Bekman, 1987). Program effects were compared with effects of custodial child care and home care, each taken alone and in combination with parental education. Children who had participated in a preschool program performed significantly better than children cared for at home on a range of measures of mental ability and cognitive skills. Children with preschool experiences whose mothers had also participated in the parental education programs were more autonomous, less aggressive, and had fewer emotional difficulties than children from the home group.

In India, children who had participated in the Integrated Child Development Service (ICDS) preschool program scored significantly higher on intellectual aptitude tests than those who did not. School attendance, academic performance, and general behavior in school were all significantly superior for ICDS participants.

In the Peruvian "Program No-Formal de Education Inicial" (PRONOEI), children ages 3 to 5 are brought together for three hours, four or five mornings a week in centers. They receive education and care from a minimally trained community volunteer as well as a snack and/or noonmeal. Mothers, on a rotating basis, prepare the food. An evaluation examined school readiness in terms of a criterion-referenced test with intellectual, motor and social subscales. PRONOEI children performed significantly better than non-PRONOEI children of similar backgrounds on all three of the sub-scales, despite the low-quality educational environment.

Studies in Jamaica, for example; the First Home Visiting Program, showed that children who received stimulation showed a gain of 10 IQ points whereas the control group declined on average three IQ points. Although the improvement seemed impressive, it was too costly in Jamaican terms to go to scale. The main positive finding from the study was that poor Jamaican mothers could be used as effective teachers of their children with relatively little assistance.

Enrollment. In six studies, the school entry enrollment age for participants was younger, with two studies indicating no significant change. The Colombia PROMESA program cites significantly higher enrollment rates among program children. Participation in early childhood programs may be most effective in promoting enrollment among traditionally disadvantaged groups. A program in Argentina was especially successful in decreasing the enrollment ages of rural and low income groups, while the decrease in enrollment ages in the Dalmau program in India and a study in Guatemala was significant only among girls. The studies also suggest a positive association between earlier enrollment ages and nonformal programs, parental involvement, and nutritional supplementation.

Repetition Rates. Of the 10 education studies including information about school progress, 7 showed less repetition and better progress through school for children who had participated in an early childhood program as compared with similar children who had not. Three showed no effect, one of which

was carried out in a system with automatic promotion so no difference would be detected. The significant increase noted in third-grade enrollment in the Colombia PROMESA study, 100%, also reflects lower repetition (and dropout rates). In the Alagoas study, Northeast Brazil, repetition of the first grade was only nine percent of the program children repeated first grade as compared with 33% for children who did not participate in the program. In the Fortaleza study, also Northeast Brazil, a high rate of repetition in the first grade (36%) was identified for children with a kindergarten experience but an even higher rate of 66% for those without such experience.

In Argentina, 36% of the rural children from low socioeconomic backgrounds repeated as if they had a preschool experience as compared with 77% for those without. Preschool programs may also have a greater impact on the repetition rates of traditionally disadvantaged groups--the decrease in repetition rates was greater for girls in the Brazil Fortaleza study.

Attendance and Dropout Rates. Early childhood education also appears to reduce dropout rates, which were lower for program children in three out of four studies. The India Dalmau program, the only study in which attendance was measured, attendance rose by 16% for children aged 6-8. In the Colombia PROMESA project, third grade enrollment rates rose by 100%, indicating lower dropout and repetition rates; dropout rates also decreased in the Indian Haryana Project. In this project, the effect of initial education is particular stronger on disadvantaged groups, as dropout rates dropped by 46% for the lower caste and 80% for the middle caste, but did not change significantly for children from the higher caste. In Choco, one of the extremely impoverished regions in Colombia, 60% of the program children reached the 4th grade of primary school versus only 30% of the comparison group. Initial education programs and parental participation appear to be positively associated with lower dropout rates, as all three programs showing a decline in the rates involved infants and their parents (Myers, 1992b).

Programs directed toward younger children that include parental participation may be more successful at improving primary school performance. Two of the studies revealing no impact on school performance concerned programs that involved relatively older children (ages 4-7) and that did not include parental participation. The insignificant relationship between Peru's PRONOEI program and academic performance may reflect program weaknesses due to the poor teaching skills of the promoters as well as inadequate material and supervisory support.

Health and Nutrition approach

Guatemala. Researchers at the Nutrition Institute for Central America and Panama (INCAP) found that high supplemental intake by pregnant mothers had a significant effect on children's birth weight, physical growth (height and weight), and cognitive development up to age 3. Although nutritional supplementation seemed to have no effect on school performance. The nutritional supplementation seemed to have no effect on school performance however, the quality of home stimulation provided for children by parents during the early years was strongly associated with primary school performance. The results suggest that the effects of early intervention should be considered in a broader framework than the focus on IQ or cognitive outcomes.

Cali, Colombia. All of the experimental groups demonstrated significantly greater growth in general cognitive ability during and immediately after the periods of preschool involvement and nutritional supplementation than a low income control groups. Modest IQ effects were found to persist to at least age 8. Treatment group children were slightly more likely than low income controls to be promoted throughout the first three grades (McKay, 1982).

Bogota, Colombia. Supplementation and maternal tutoring were associated with improved cognitive abilities in various areas at ages 18 months and 3 years, with the strongest effect found for those fully-supplemented and home-visited group. Parental supplementation had a very modest effect on birth weight. Supplementation was also associated with improved physical growth at 3 years. A school readiness test produced a small, but significant overall positive effect of nutritional supplementation on readiness test scores (reading readiness, math, basic knowledge). Children in three intervention groups repeated first grade at about a 4% rate, but those in the control group repeated at a 13% rate. The largest effects appeared to be found among the most disadvantaged groups.

Puebla, Mexico. Ten-year study shows that supplemented children walked at an earlier age, and demonstrated language superiority from the 20th

week onward. In the early years of schooling those supplemented children performed significantly better than un-supplemented children. Supplemented children more often looked at the teacher (10% vs. 3%), talked or asked questions(6% vs. 3%), left their seat (7% vs. 1%), and were less likely to sleep in class (1% vs. 5%). Slightly more than one-third of the un-supplemented children failed the first year while there were no failures among the supplemented.

Jamaica. The Malnutrition and Mental Development Study had shown that when increased stimulation was given to children recovering from severe malnutrition that their IQ levels improved significantly compared with other malnourished children.

Table A1: Summary of Studies Evaluating the Impact of Early Child Programs in Developing

Country/Intervention	Urban/Rural	Age of Children	Study Population	Intervention Components	Comparison Groups
Colombia, Bogota (Herrera, 1983)	Urban Marginal	Pre-Natal. 3 months at outset followed to age 7	443 Families	All groups received health care. Nutrition supplementation, different ages. Home visits for subgroups.	Random assignment to treatment groups: 1. Suppl. Nutr. - Mother 2. Suppl. Nutr. Child - 3 mos to 3 yrs. 3. Early Stim. - Birth to 3. yrs
Colombia, Cali (McKay, 1982)	Urban Marginal	3-7	333 Children, malnourished, low income	Pre-schooled, Nutrition supplementation. Health Surveillance/Care. H/N Education	Random assignments to: 1. 4 yrs begin age 3. 2. 3 yrs begin age 4. 3. 2 yrs begin age 5. 4. 1 yr begin age 6. ALSO: 5. No treatment low income group with normal weight/hgt. 6. No treatment, high income.
Guatemala, INCAP (Klein, 1979)	Rural Four villages	Pre-Natal 6 mo. at outset	671 Children (450 followed longitudinally)	Nutrition Supplementation. (6 mos. to 7 years).	Two villages: high protein and high calorie supplementation. Two villages: no protein, modest calorie supplementation.
Mexico (Chavez and Martinez, 1983)	Rural One village	Pre-natal (followed for 10 years)	34 Children	Nutrition supplementation to mother during pregnancy and lactation. Supplementary feeding of baby from approx. 3rd month.	Control (n=17) pregnant women who were well, normal hgt. and between 18-36. Selection of children born with 2.5 kg. or more and APGAR of 8. intervened (n=17). Matched group, a year later.
Turkey Comprehensive Pre-School Education Research Project (Kagitcibasi, 1987)	Urgan	3-5	251 Children	Maternal education using Turkish adaptation of HIPPY, preschool educ. vs. custodial care vs. home care.	Children in same neighborhoods matched on age, economic and family criteria who did not attend pre-school. Trained vs. untrained mothers.
India Integrated Child Development Service (ICDS) Dalmau Project (Chaturvedi, 1987)	Rural	0-6	Children aged 6-8 in primary school 214 ICDS 205 non ICDS	Nutrition supplementation. Immunization, health checkups, health/nutrition. Education, non-formal pre-school education.	Children in adjoining area not participation in ICDS but similar in socio-culture, geographic, anthropological features. Villages within area selected randomly.
India, ICDS Haryana State (Lai & WAti, 1986)	Rural	0-6	Primary school: 1,271 ICDS 436 non-ICDS	Same as above.	Children from same area who did not participate in ICDS.
Morocco Literacy Acquisition Research (Wagner, 1984)	Urban and Rural	5-7	378 Children	Quranic or "modern" preschool.	Children in Quern pre-schools compared with children in "modern" pre-schools and non pre-school group. Sample constructed to control for social class.

Country/Intervention	Urban/Rural	Age of Children	Study Population	Intervention Components	Comparison Groups
Latin America, 4-country study in Argentina, Bolivia, Chile, Colombia (Filp, 1983)	Urban and Rural	4-7	2,545 Children	Pre-School.	1st grade children who had participated in pre-school vs. non pre-school (taken from same/other last grade classes, same schools). Analysis within SES grouping.
Brazil, Fortaleza Pre-school Research (Feijo, 1984)	Urban	6-7	127 Children	Public kindergarten participation.	Children who tried to enroll in same kindergarten but couldn't due to space, matched by gender, birth order, siblings.
Peru, non-formal Program in Initial Education (PRONOEI) (Myers, 1985)	Urban and Rural	3-5	334 Children	Nonformal preschool, Nutri. suppl. Community improvement projects.	Children in non-PRONOEI villages with partial attempt to match on SES status.
Chile, Osorno Parents and Children Project (PPH) (Richards, 1985)	Rural	4-6	Children in 52 communities	Health/nutrition education. Child development education. Community development.	Children in same class who did not participate in PROMESA.
Colombia PROMESA (Nimnicht, 1986)	Rural	0-7	4- communities	Health/nutrition/child dev. education. Early stimulation program. Community improvement projects.	Children from same communities who did not participate in PROMESA.
Brazil, Alagoas PROAPE (Min. Saude, 1983)	Rural	4-6	184 - PROAPE; 556 - CASULO; 320 - KINDER; 334 - NO preschool	Health surveillance. Nutrition supplement. Pre-school.	Comparisons among children from different pre-schools with non preschoolers in first grade.
Philippines, Early Childhood Enrichment Program (ECEP) (CYRC, 1988)	Urban and Rural	0-6	Pre-test 8,842 Post-test 4,875 Follow-up = 660	Cognitive enrichment in centers or in homes.	ECEP vs. non-ECEP children with similar "Disadvantaged" characteristics. ECEP and "other pre-school" vs. non-ECEP.
Brazil, Sao Paulo, (CEAPE) (Pontieri et al. 1981)	Urban	4-6	CEAPE - 268 No-CEAPE-268	Cognitive enrichment. Nutrition.	CEAPE vs. non-CEAPE children from same community.

Country/Program	Enrollment	Progress	Performance
A. NUTRITIONAL INTERVENTIONS			
Colombia, Bogota	Suppl/home visit Control Ave. age of enrollment: 5.6 6.0	Treatment No Treatment Repetition: 4% 13%	Teacher assigned grades. No difference (1st Grade).
Colombia, Cali		Experimental Comp. Average grade level in 4th yr: 3.2 .9	
Guatemala	Earlier for supplemented.	NO effect.	Acad. perform: no effect. Social interact: Pos. effect.
Mexico (Chavez)	All enrolled.	Treatment No Treatment Repetition (1st grade) 0% 35%	Significant differences found in: -school exam/ -national exam -Detroit-Engle test/- behavior obs.
B. EDUCATIONAL STUDIES			
Turkey, Comparative Pre-School Research Project			Performance in Grade 3 Maternal Custodial vs. home / Maternal Education vs. No Mater. Educ. 1. School Grades + + 2. Behavior + 3. Achieve test + + 4. Gen. Abilities +
India (Dalmau)	Entrance by ICDS at earlier age (85% vs. 74% by age 6). Only significant for girls	Regular attendance for ICDS (88% vs. 74% had average or above attendance record)	1. Scholastic performance based on teacher ratings favored ICDS (90% vs. 76% rated average or above. 2. Behavior 93% vs. 81% rated average or above.
India (Harana State)	Right age for grade: ICDS Non-ICDS Lower caste 80 56 Middle caste 75 56 Higher caste 82 59	Dropout by grade 3: ICDS Non-ICDS Lower caste 19 35 Middle caste 5 25 Higher caste 7 8	Teacher classification: "Overwhelming majority of the children in top 10% & 20% were those who had 2-3 years of exposure to Anganwadi. Attention span and retention power was superior."
Morocco		No difference in promotion rates.	1. Achieve test + for Quranic in rural areas. (grade 1) + for "modern" in urban areas No difference for Quranic in urban areas. 2. General Abilities Test
Argentina (4 country study)	Lower age of enrollment (all social classes, urban and rural, especially low SES/rural).	Repetition (1 yr) Preschool No Preschool Low SES/urban 12% 27% Low SES/rural 36% 77%	Reading/writing ability significantly higher for pre-schoolers (except for urban marginal children).
Bolivia (4 country study)	Negligible difference.		Reading/writing ability: negligible effect.

Country/Program	Enrollment	Progress	Performance
Chile (4 country study)	Lower age of enrollment (all social classes)	No difference.	Reading/writing ablity: negligible effect.
Colombia (4 country study)	Repetition Preschool no Preschool Low SES/Urban 10% 22%	No difference.	Reading/writing ablity: negligible effect.
Brazil, Fortaleza		Kindergarten No Kindergarten Repetition yr. 1: 36% 66% (girls benefitted most)	
Peru (PRONOEI)	Lower age of enrollment.	No difference in 1st or 2nd grade promotion rates (Myers, et al.)	No difference in grades or on results of special math/language ability test.
Chile (PPH)			Grade 1: Teacher rating +(71 vs. 39 rated as good) Draw-a-man + Parental assessment +
Colombia	PROMESA NO PROMESA Enrollment in first grade 100% 87%	PROMESA NO PROMESA Reached Grade 2: 83 77 Reached Grade 3: 73 44 Reached Grade 4: 60 30	
Brazil, Alagoas		PROAPE Non-PROAPE Dropout Grade 1: 18 14 Repetition: 9 33 Dropout + Repeat 27 47	
Philippines (ECEP)			Acad Ach Eng Pilip Math Civic Char Bldg. Soc Mat Grade 1 + + + + 0 + + + Grade 2 + + + + + + + + Grade 3 0 + 0
Brazil (CEAPE)		Repetition Grade 1 Grade 2 CEAPE 26% 6% non-CEAPE 44% 26%	

Source: Myers (1992a)

Annex B: Summary of Bank Financed Projects on Early Child Development

Project				Content-Intervention					
REGIONS	ON-GOING/ PLANNED	OBJECTIVES	DESIGN/SCALE/ TARGET	ECD	HEALTH	NUTRITION	OTHERS	COST	EVALUATION
Nigeria (AF1) Development Communication Pilot Project 1992	planned: 1994-1998	promote ECD parental education materials production social communications	non-formal, mass-media education (children +parents) 9900 children 4000 mothers target: children 3-6 yr	main component	some messages will focus on health, AIDS and environmental sanitation	some nutrition messages	enhance women and community knowledge on ECD, health and nutrition	Total: US $10.32 million	*short-term:* survey recall *long-term:* comparison with control group school enrollment and promotion
India (SA2) ICDS/1990	1990-1995	improve health and nutrition of those under 6 yr in Andhra Pradesh and Orissa	non-formal center-based 5 million target: 0-6 yr, tribal, drought-prone and otherwise disadvantaged population	preschool education with theme-based toys and play materials	6-36 months: immunization, deworm, ARI Mx., health-check-ups and rehabilitation 3-6 yr: health check-ups	6-36 months: growth monitoring, Vitamin A	*impact on women:* employment and education of women *community:* mobilization through women groups and income generating activities	Total: US $153.5 million ECD: US $130.5 million	*monitoring:* AWW registers: immunization, weight, and school attendance *evaluation:* not specific; school drop-out
India (SA2) Second ICDS/1993	1993-1999	idem except Madya Pradesh and Bihar	idem except in last year, 12 million children	idem	idem + CDD	idem + health care and referral for severely malnourished	*impact on women:* idem *community participation:* relies on women groups	Total: US $244.1 million	no mention of pre-school evaluation but many studies were done on that subject previously
India (SA2) Second Tamil Nadu Project 1990	1991-1998	improve health and nutrition of those under 6 yr	non-formal center-based (nutrition centers) 5 million children target: 3-6 yr	preschool education for children 3-6 yr theme-based play, parental education	immunization, de-worming, ARI Mx health check-ups and rehabilitation	growth monitoring, Vit A and therapeutic supplements child 2-6 lunch	employment and education of women. community education and mobilization to identify and solve local problems	Total: US $134.1 million but not mentioned for ECD	*monitoring:* school attendance, weight *evaluation:* collection of data on attitude and child care practices

Project				Content Intervention					
REGIONS	ON-GOING/ PLANNED	OBJECTIVES	DESIGN/SCALE/ TARGET	ECD	HEALTH	NUTRITION	OTHERS	COST	EVALUATION
Brazil (LA1) Innovations in Basic Education 1992	1992-1998	improve primary learning and retention among disadvantaged children; expand low-cost pre-primary education and enhance the quality of teaching (train)	center-based formal 120,000 4-6 yr children target: 4-7 yr of poor and migrant families of Sao Paulo	main component no curriculum available	9 interventions: physical exam, vision and hearing test, oral health hygiene	nutrition education pilot study of iron and Vit A screening and supplementation if necessary	no	Total: US $600 million ECD: 62.5 million Health comp: 29.7 million (pre and primary 1 and 2)	*monitoring:* building, training, cost, enrolled, attendance *impact evaluation:* school readiness, promotion, learning of specific topics (Portuguese, math)
Venezuela (LA1) Social Development Project 1990	1991-1997	*one of objectives:* develop and expand preschool education	center-based, formal 16,000 non-formal and 96,000 formal by next 5 years Target: 4-6 yrs from low SES rural and urban	main component no curriculum	*non-formal:* health education examination through PHC	*non-formal:* nutrition education both supplied through PHC	*impact on women:* free women for work, give employment to community mothers and give girls better opportunity for education *community participation:* through involvement in community-based day care	Total: US $320.9 million ECD: US $57.6 million	*monitoring:* building, school attendance *evaluation:* study to determine the optimum, viable profile for integrating activities at preschool level
El Salvador (LAC2) Social Rehabilitation Project 1991	1991-1995	improve the delivery of basic social services including pre-primary school program	formal, center-based, 25,000 pre-primary children target: children with highest 1 grade repetition and higher nutritional deficiency	school readiness for reading, writing and numeracy	no (in pre-primary school)	either hot lunch or nutritional fortified cookies	*impact on women:* free women for work *community participation:*	Total: US $35.6 million ECD: US $4.4 million cost per child: $120/year	*monitoring:* # of schools, children enrolled, teachers trained, materials produced *annual formative evaluation:* impact on child development

Project				Content-Intervention					
REGIONS	ON-GOING/ PLANNED	OBJECTIVES	DESIGN/SCALE/ TARGET	ECD	HEALTH	NUTRITION	OTHERS	COST	EVALUATION
Mexico (LAC2) Initial Education Project 1992	1993-1997	improve school readiness, attendance and performance, educate parents on child-rearing practices	non-formal parental education 1.2 million children target: 0-3 yr through parents, low-income families, rural and urban.	*guidebook:* theoretical and practical activities. development of cognitive, psycho-motor and social skills	curriculum contains topics on health and FP	topics on nutrition	*impact on women:* educate mothers, increase access for girls *community:* weekly parents' meeting, prochild committee, mobilization of resources	Total: ECD: 115 million cost per child $78-92/year	*conduct impact evaluation:* targeting, coverage resource management
Bolivia (LAC2) Integrated Child Development Project 1993	1991-1999	improve child readiness enhance women's status and community part.	non-formal home-based. 130,000 children/year target: 6 months - 6 yr; malnourished, left alone (or with older sibling) during day, monoparental family, etc.	Child Development Chart for each child	imm. detection of ARI and diarrhea monthly check-ups	growth monitoring, and treatment if necessary	*impact on women:* training + employment of comm. mothers + home upgrading, free others for work, and improving knowledge *community participation:* parents' participation	Total: US $140.2 million Serv. delivery 133.6 million	*monitoring:* enrollment, attendance, food availability, checkups, child development chart *evaluation:* Integrated *HH Survey:* (development, health and nutrition status of child, women status, community participation) studies on impact on women, community cost-effectiveness and impact on schooling and school performance
Columbia (LAC3) Community Child Care and Nutrition Project 1990	1990-1995	support institutional development of Columbia Inst. for Family Welfare, the Hogar de Bienestar Infantil delivers early child services	home-based non-formal, 500,000 additional children target: 2-6 yr low-income, urban	new component since 1990; ECD through play, social interaction	Immunizations, health check-ups as pre-requisite to admission	growth monitoring, food	*impact on women:* employment + home upgrading comm. mothers, free the others for work *community participation:* mobilization in support of self-help strategies for health, education, and home improvement	Total: US $40.2 million Serv. delivery 37.1 million 1989 Cost per child $132/year	*monitoring:* # of children enrolled, # of comm. mothers, height and weight. *evaluation:* annual *HH Survey:* effect of project on health and nutritional status of children, school attendance, female employment

Project				Content-Intervention					
REGIONS	ON-GOING/ PLANNED	OBJECTIVES	DESIGN/SCALE/ TARGET	ECD	HEALTH	NUTRITION	OTHERS	COST	EVALUATION
Guyana (LAC3) Health, Water and Sanitation Project 1992	1992-1996	improve health, nutrition for those under 5 yr, program. and lactating women through financing food supplements, improvement of day-care centers, water supply	center-based, 80,000 children. target: 9 months - 5 yr	*ECD in day-care centers:* early stimulation and educational activities	prior to admission, should have check-up including immunizations	food supplements (1-2 meals per day) nutritional education for parents	free women for work	Total: US $11.7 million day-care centers US $1.01 million	*evaluation:* nationwide Morbidity and Nutrition Survey at beginning and end of project, and assessment of quality and impact of different sub-projects
Chile (LAC4) Primary Education Improvement Project 1991	1991-1997	expand the coverage and enhance the quality of preschool and primary school	RURAL: 2 different types of center-based, formal URBAN: center-based, formal 16,000 urban and 30,000 rural preschool children Target: 5 yr, low-income, rural and urban	main component no curriculum	municipal preschool and JUNJI have health services	some have provision of food, some do no	*impact on women:* free women to work *community participation:* in rural by providing for local school	Total: US $243.0 million ECD: 32.4 million	*monitoring:* # enrolled, student-teacher ratio, per pupil cost *evaluation:* study on preschool impact on children's further acad achievement, behavior and skills, a comparative cost effectiveness study
Ecuador (LAC4) First Social Development Project 1991	1992-1999	strengthen management of public institutions involved in the delivery of basic education and training programs	center-based formal 5,800 children/yr target: children of low-income families, urban	the only component	no	no	N/A	Total: US $118.7 million	*monitoring:* # of preschools *evaluation:* comparison between all types of preschool and quality of serv. school readiness, test for readiness comparing preschool and non-preschool at the end of grade 2 and cost of alternative model of preschool

ANNEX C: EXAMPLES OF PROJECTS PACKAGED WITH DIFFERENT DESIGN APPROACHES

Projects on early child development can be packaged through several designs. These designs can have different immediate objectives and can be directed toward a different audience and participants, yet all intended to enhance early child development.[1] Some of these designs are:

A. Deliver a Service to Children
B. Educate Caregivers
C. Promote Community Development
D. Develop Institutional Resource and Capacity
E. Create Awareness and Demand

A. Deliver a Service to Children

Examples of Home Day Care

Colombia: Community Child Care and Nutrition Project. The Colombia program of "Hogar de Bienestar" or "Homes of Well-Being" is a large-scale, community-based response to the problems of malnourishment and delayed development that plagues many of the country's 5 million children under the age of seven. In this program, children from ages one and seven are cared for in groups of about 15 children in homes located within their own neighborhoods. While meeting directly the care and development needs of the children, the program also seeks to improve a community's economic base by providing paid employment to neighborhoods caregivers, by freeing other women to seek (or upgrade) their employment, and by directing funds to local businesses for economic activities related to the home day care (e.g., improving homes, supplying food).

Since its start in 1987, the program grew in five years to cover approximately 800,000 of the 1,700,000 children that it is expected will eventually participate. Funding for the program comes from a payroll tax levied on all Colombian businesses. Some additional support, for an evaluation and for nutritional supplementation, has been provided through a loan from the World Bank. The cost per child per year is estimated at about US$130.00.

This is a community-based program. Community members participate in an initial analysis of the communities' needs for services, taking into account children's ages, family income and employment, and physical and environmental variables. (If services are needed that the program cannot provide, links are made to other organizations that can assist.) The community also determines the number of homes of well-being that will be necessary to meet children's needs and selects local women to become home day care mothers. Local management is the responsibility of a board consisting of parents who are responsible for purchases and payments to the community mothers.

The main responsibility for coordinating the program falls to the Colombian Institute of Family Welfare (ICBF). Also participating are the Ministry of Public Health, the National Apprenticeship Service, the Institute of Territorial Credit (which provides low-cost loan funds for the up-grading of homes), and other government and private organizations. Children are given "scholarships" which are used to pay the home day care mother.

Day care mothers receive training in the care and development of children as well as in family and community relationships, and in nutrition and health. Once trained, each women cares for neighborhood children in her own home, for approximately 8 hours per day. In many of the homes, assistance to the home day care mother is provided each day by one of the mothers whose children are in the home -- on a rotating basis. In other cases, an older daughter in the family is called on or a neighbor is hired to help out. Care consists of providing children with the conditions necessary to foster their health and their physical, psychological and social development.

An extensive evaluation of the program carried out in 1992 indicated that the program has had a significant effect on the psycho-social development of the children and that approximately 20

[1] This annex draws heavily on "Early Childhood Development--Meeting Basic Learning Needs" (CG, 1993), on Robert Myers's The Twelve Who Survive (1992b) and communications with Judith Evans of Consultative Group on ECCD.

percent of the mothers improved their employment situation. A reduction in accidents was associated with participating in the program. The nutritional status of the children did not improve significantly suggesting a need to improve the community purchasing system, work on nutritional habits of the parents, and to attack the problem of nutrition at an earlier age.

Bolivia: Integrated Child Development Project. The lessons learned in the Colombian project are being applied as a similar project developed by the Junat Nacional de Solidaridad y Desarrollo Social (JNSDS), with the support from the World Bank, USAID, and public and private donors. The project will target poor households in urban and peri-urban areas with populations over 10,000. The project seeks by the end of its sixth year, to have attained an installed capacity of about 9,000 day-care centers to provide non-formal , home based, integrated child development services to over 200,000 children aged 6 months to 6 years annually, or about 16 percent of all children living in those urban areas. An estimated 16,000 pregnant women will be direct beneficiaries either as caregivers or have children participating in day care centers. Special features of the project are: (a) a built-in impact evaluation system through the Integrated Household Survey, which will enable a comparison of participants and non-participants; (b) high supervision ration of one supervisor to 10 centers.

Nepal: Project "Entry Point". Taking its name from the Nepali word meaning "first door into an important place," the Entry Point program is unusual for its joint attention to the child care needs of working women (families) and the developmental needs of young children. The project setting is in rural Nepal where more than 42 percent of the population is estimated to live below the poverty line and where the infant mortality rate is above the national average of 102 (1991) per 1000. The project was set up initially with the objective to free women's time for economic activities and to improve the well-being of their children. It was carried out in parallel with the government initiated program of Production Credit for Rural Women. The credit scheme supports activities that generate income and improve conditions in the community. To obtain and guarantee repayment of credit, the Credit program asked that the women organize themselves into small groups of five or six. These groups of women also became the unit for organizing day care. Within the group, women agree to share responsibility for taking care of their young children in their homes, and on a rotating basis, each women taking the children into her home for one day of each week. In 1989, approximately 54 groups of mothers in 11 districts were in operation, and an estimated 1,700 children were participating in the home day care arrangements. Because the care is provided by local women on a rotating basis, the operating cost to the Government of this project is very low.

All women in the group receive an intensive course at the village level. Each group is provided with a basic kit of materials containing cooking utensils, plates, cups, a bucket, a jug, personal hygiene products, a rug, two dolls, three puppets, a ball and a drum. Besides this basic kit, nine different kits are now in use. Neighboring groups exchange materials periodically so that children can be exposed to a wide variety of toys and play materials. Since the majority of the women are illiterate, pictures of different activities are used in the curriculum and training that has been provided by an innovative Nepalese non-governmental organization. Training emphasizes the importance of mothers as caregivers and teachers, and aims at building up women's confidence in their ability to manage and run the program regularly. The quality of the mother-child interaction changes due to increased knowledge and confidence between them.

The demand to start similar programs exceeds the project capacity. A variety of factors seem to contribute to this success, including the power of group support, a decentralized planning process involving community definition of needs, a comprehensive curriculum, and on-site training which respects traditional practices while incorporating new information. Success has occurred in spite of difficulties related to Nepal's difficult geography, the need to follow-up initial training, and occasional conflicts between traditional and child-centered approaches to childrearing.

Examples of Integrated Child Development Centers

India: Integrated Child Development Services (ICDS). Beginning in 1975 with 33 projects, the Integrated Child Development Services has grown to 1962 projects (205,452 centers) in 1992, reaching about 12 million children under 6 years of age. The overall goals of the program are: to provide a comprehensive range of basic services to children, to expectant and nursing mothers, and to other women aged 15-45; to create a mechanism at the village level through which the services can be delivered; and to give priority to India's low-income groups, including the under-privileged tribes and scheduled castes. The specific objectives of the ICDS program are to: a) lay the foundations for the psychological, physical, and social development of the child; b) improve the nutritional and health status of children, 0-6; c) reduce the incidence of mortality, morbidity, malnutrition and school dropout; c) enhance the capability of mothers to look after the needs of the child; and d) achieve effective coordination among agencies and departments involved in child development.

The integrated package of ICDS services works through a network of Anganwadi (courtyard) Centers, each run by an Anganwadi Worker (AW) and helper, usually selected from the local village. The AW undergoes a three-month training in one of the more than 300 training centers run by voluntary and governmental agencies. Responsibilities of the AW include: non-formal pre-school education, supplementary feeding, health and nutrition education, parenting education through home visiting, community support and participation, and primary maternal and child health referrals. Support is provided to the AW by a supervisor (1 per 20AW) and a Child Development Program Officer (1 per 5 supervisors) who is directly responsible for implementation and management of each ICDS project.

The ICDS program utilizes existing services of diverse governmental departments and of voluntary agencies. Overall administration lies with the Department of Women and Child Development within the Ministry of Human Resource Development. The annual unit cost per child per year was estimated at approximately US$10.00.

Although the program often operates at a minimum level of quality it has nevertheless had important effects on the under-six population. For instance, a review of nearly 30 studies of the nutritional impact reveals nearly unanimous results documenting a positive outcome. A 1984-86 comparative study done in a number of locations showed ICDS/non-ICDS infant mortality rates of 67 vs. 86 in rural areas and 80 vs. 87 in urban areas. In a comparative study of effects on schooling, one researcher found that those with ICDS background had a higher primary school enrollment rate (89 vs. 78 percent), were more regular in primary school attendance, had better academic performance and scored significantly higher on a psychological test (Raven Color Matrices), than non-ICDS children. Furthermore, the difference in enrollment rates was accounted for by differences among girls. In another study, it was found that primary school dropout rates were significantly lower for ICDS than for non-ICDS children from lower and middle caste groups (19 vs. 35 percent for lower castes and 5 vs. 25 percent for middle castes).

The ICDS, the largest program of its kind, illustrates the power of political commitment to achieve significant rates of coverage in an integrated program of attention to children ages 0-6, with important effects on health and education and at a reasonable cost per child.

Brazil: Programa de Alimentacao de Pre-escolar (PROAPE). Integrated attention to the educational, health, and nutritional needs of young children can be a cost-effective investment. In Brazil, an innovative program involving urban families living in marginal economic conditions, paid for itself by reducing repetition significantly in the first years of primary school.

PROAPE, funded under a nutrition loan from the World Bank to the Brazilian government, began in 1977 as a pilot project in the State of Pernambuco and, in 1981, was extended to another 10 states of Northern and Northeastern Brazil, using several adaptations of the pilot project. The PROAPE model involves bringing children ages 4 to 6 together in centers during weekday mornings in groups of about 100 children for a snack and for supervised psycho-motor activities. A health component is also included involving check-ups, vaccinations, dental treatment and hygiene and visual examinations.

The children are attended by a combination of trained personnel and participating family members. In the original model, one certified professional was assisted by six community members. In one state, Alagoas, the centers were run by three trained para-professionals called "estagiarias", who receive help from parents. The estagiarias are paid 70 percent of a minimum salary for their morning's work.

One evaluation of the PROAPE program revealed that the combined repetition and drop-out rate for PROAPE vs. non-PROAPE children was 39 percent vs. 52 percent in the first grade and 27 percent vs. 44 percent in the second. The total cost of schooling (including pre-school PROAPE services) per second-grade graduate was calculated at about 11 percent less for students who had been in the PROAPE program than for those who had not been PROAPE. The program paid for itself.

In the Alagoas case, evaluation data showed a similar result: 73 percent of the children from PROAPE passed the first grade (in 1982) vs. only 53 percent of the children without any pre-school experience. This was so despite the fact that the PROAPE children attended for only 78 days. In this case, the combined pre-school and primary school cost per first grade graduate for PROAPE children (including PROAPE costs) is 17 percent lower than for a child with no pre-school experience.

Although the PROAPE model was shown to work in a cost-effective manner and can be used as an example for others to adapt to their own circumstances, the PROAPE program is no longer functioning. One explanation that has been given for its demise is that it was formalized out of existence. The Ministry of Education which took a leading role in the program did not easily incorporate a non-formal alternative into its operations and slowly adapted the non-formal community-based model to a more formal preschool, creating formal preschool classrooms of 30 children each with a trained preschool teacher. This suggests that the continuity of a program may be determined by conditions that have little to do with a favorable cost-benefit program ratio.

Examples of Add-On programs

Ghana: Accra Market Women's Association. The Accra Market Women's Association was interested in starting a child care program for their children while they were involved in the market's buying and selling. Accra City Council fund a program which provided child care with health and nutrition focus.

Senegal: Animation Feminine project. An initiative undertaken in relation to women's work place begun in Senegal in 1962. Women who were part of a women's group (Animation Feminine) developed a day care center for children of women working in the fields to resolve the problem of caring for their young children while, they and their older daughters are involved in agricultural work. Mothers rotated responsibility for planting and tending a community garden from which the children could be fed while they were in the center. Parents also pay a fee for the program in the form of money, rice, oil or dried fish. The first child care center began in July 1962 and operated for 2 1/2 months during the most difficult part of the agricultural season, when the rice crop is transplanted. By 1978 there were 58 centers, serving 6.004 children, ages 6 months to 5 1/2 years. Administratively, the day care centers are the responsibility of Departement d'Animation Rurale, promotion Humane. Using the center as a base, a variety of social services were added: adult education courses in nutrition hygiene, disease prevention, water purification, treatment of malaria and conjunctivitis. This program provides an excellent example of ways in which a child care center has served as a catalyst and location for more general development activities for the community.

Examples of Preschools

Peru: A Non-Formal Program of Initial Education (PRONOEI). In 1967, a nutrition education project for mothers was begun in several villages in highland Peru in the Department of Puno where the infant mortality rate was then greater than 150 and malnutrition was widespread. The project, initiated by volunteers from a regional university, evolved into a community program that included daily cooking of mid-morning snacks for children, ages 3 to 5, gathered together for several hours each weekday morning. From this cooking program, a non-formal preschool emerged that was intended to help the children to develop mentally and socially, and to prepare them for schools. Five

years later, as part of a major educational reform, the government extended this small-scale community-based model, launching a major child care and development initiative in the Department of Puno. Since then, the community-based non-formal model has spread widely throughout Peru, offering an alternative to more expensive pre-school centers.

In each PRONOEI center, or "Children's House" as they are called, approximately 30 children, ages 3 to 5, are attended during the morning by an "animator." Mothers of participating children take turns cooking the morning snack. Food is provided through an international program, supplemented by local contributions. The pre-school teachers, who were called "animators," are provided with training and periodic supervision. A general curriculum, based on Piagetian principles, has been adopted to regional differences.

Participating in the PRONOEI model are both rural and urban children, although the program is found primarily in rural villages. At present, approximately 8,000 PRONOEI centers are functioning. Community participation takes several forms: provision of a site (and often construction of a building) for the children's house; selection of the "animator" who is paid a gratuity but it essentially serving the community as a volunteer; provision of some food; and management of the centers through a parent committee. In some cases, income generating projects have been created as part of the program.

An in-depth evaluation of the PRONOEI in 1985 showed that PRONOEI children were socially and intellectually more prepared for primary school than a comparison group of similar children who had not participated in the PRONOEI. The difference appeared despite the minimum quality of many of the centers. The advantage provided to the children through the pre-school program did not seem to be retained as children moved through the primary schools, presumably because of the low quality of primary schools. The evaluation also indicated that the presence of pre-schools affected the kinds of topics dealt with at community meetings.

The per-student cost of the program to the government (not counting the major contributions made by the local community) amounted to about US$28.00 per child per year. This was less than one-half the cost of the alternative formal pre-school programs. The government cost is covered from normal budget allocations to education.

The PRONOEI experience suggests that effectiveness at lost cost can be achieved and sustained over time in a relatively large scale non-formal pre-school program with community participation. It also suggests that there is a need to consider the pre-school and primary school programs together in order to maximize the effectiveness of both.

B. Educate Caregivers

Examples of Home Visiting

Indonesia: Two Initiatives: The Kaders and the PANDAI Projects. An extensive network of community-based programs in population, health and nutrition has grown up in Indonesia over the last 15 years. These programs and their organizational structures have provided a base for the introduction of early child development programs designed to enhance the mental and social development of children under five years of age.

In 1982, in conjunction with periodic weighing of young children and the distribution of food, the Bina Keuarga and Galita (BKG) project, initiated by the Associate Ministry of the Role of Women, began working to bolster the knowledge, awareness and skills of mothers and other members of the family, thereby enabling them to provide a more appropriate development for their young children. Field workers -- women chosen from the communities being served -- were provided with training in child development and in methods for working with adults. Usually, these women, known as "kaders", were chosen because they had been successful in promoting the development of their own children -- in spite of adverse circumstances that put their children, as well as others in the community "at risk" of delayed development or debilitation. These community workers organized workshops at the nutrition centers where mothers would participate in group discussions, share experiences, make (and borrow) toys (from a toy-lending library), and agree upon particular activities that they could carry out at home (e.g., ways to use the toys made, talking to the children at bath time).

In 1986, an Indonesian research project on childbearing practices pointed to a number of prac-

tices detrimental to health and/or development and identified some traditional practices that were positive and needed to be reinforced. Based on this research, the PANDAI project was established, complementing the BKG initiative described above. This project involves home visiting by volunteer kaders who work with parents and other caregivers to improve their attention to and interactions with children. Visits are made two times per week. Health, nutrition and mental and social development issues and practices are discussed using a "cartoon curriculum." The cartoons provide a message but do not require literacy. Mothers are taught to monitor the psycho-social development of their children using a simple, specially-developed scale and instrument.

These two projects illustrate an approach to child health, nutrition and development based on local practices, calling upon skills of "successful" local caregivers, and bringing together several components for their simultaneous impact on child survival and development.

China: Parent Schools. A parental education initiative, begun in 1985 in the People's Republic of China resulted, by one 1989 estimate, in organization of 200,000 "parent schools." The rapid growth reflects, at least in part, parental concerns about how to deal with children in the one-child family. The purpose of the program is to assist parents by empowering them with knowledge. The program growth also reflects the convening power of the All China Women's Federation (ACWF) at the community level. The ACWF is organized at five levels, including the community level.

Educational content for the program varies from place to place, based on local needs and resources. Topics are determined by the findings of an inter-sectoral group (health, nutrition, child development, education and others) brought together by the ACWF, locally, to define existing research, identify local resources and define needs of parents and children. Specialists or staff from local institutions provide up to eight sessions for parents over a term. In support of, and sometimes in addition to, the local curriculum and materials, general materials related to child development are provided by the Women's Federation. These materials include such documents as the Chinese version of "Facts for Life" produced by UNICEF.

Most of the parent schools are attached to kindergartens, primary schools, middle schools, or hospitals. In addition, some communities provide programs for newlyweds or potential parents. In some cases, libraries have been set up in a special room in the base institution where parents can come to read and study in between meetings. Participants are given a parenting education certificate if they have participated in all or most of the meetings.

The costs of mounting this program are primarily costs of people's time rather than monetary costs. Time is given by the ACWF members for organization, by local experts for diagnosis and presentations and by participants who take the courses. All of these time contributions are voluntary. The monetary costs are restricted to developing and distributing materials. In brief, from the standpoint of the government, this is a very low-cost project.

Jamaica: Child-to-Child. Child-to-child programs are designed for children who are usually between the ages of 8 and 15 and who are often, at one and the same time, caretakers of younger siblings, future parents, communicators of information to their parents and other caretakers, and community members, capable of improving conditions affecting health and development. The Jamaican Child-to-Child program is a school-based program directed specifically at improving the knowledge and caretaking practices of primary school children, ages 9 to 12, and through them, the knowledge of parents or guardians.

Begun in 1979 on an experimental basis in only one school by the Tropical Metabolism Research Unit (University of the West Indies), the program was extended to 14 schools where an evaluation showed it to be well-received. Materials were carefully tested for comprehension by both children and their parents, and changes were made.

The curriculum provides information about health, nutrition, psycho-social development and dental care. Children are taught how to make toys and how to help younger children play with them so as to encourage the younger child's development. Immunization lessons deal with the purpose of immunization, the diseases that can be prevented, and the times when immunization should be done. The action-oriented curriculum includes role play, group discussions, demonstrations, drama and song, as well as toy-making. Most of what is

imparted in a Child-to-Child program is already contained in the curriculum of the primary school -- in material from biology and the social sciences. Adding some emphasis, relating the knowledge to activities and presenting materials in new, interesting and participatory way, however, can bring major benefits.

An evaluation of the pilot program showed that children improved significantly in their knowledge of all areas. In addition, the knowledge of parents and guardians improved as did their encouragement and support of play with younger children. Teachers also improved their knowledge of health and development and were introduced to new forms of teaching.

When all costs of the project directed to children in the 14 schools were estimated (teacher's salaries for the partial time devoted to Child-to-Child, training costs, supervision, materials, curriculum development and production of a curriculum package, and evaluation), the cost per child per year as approximately US$15.00 per child (or about one-third of a minimum wage). As the initial development costs are spread out over many more children with expansion of the program, the per child cost is reduced considerably. The "per child" costing does not take into account that parents and teachers also benefit. If that were done, the resulting "per person" cost could be lower.

The Child-to-Child curriculum is now incorporated into the regular primary school curriculum for the entire country. In the process, parts of the pilot curriculum were rewritten and topics were dispersed throughout the regular curriculum so that the program no longer retains its specific identity. Moreover, the "active learning" part of the curriculum has been weakened, as has the initial training of the teachers in this methodology and the specific content of the Child-to-Child program. Accordingly, this example shows, on one hand, the potential benefit of a Child-to-Child approach, the possibility for such a program to "go to scale", and on the other hand both the importance and difficulty of maintaining key elements of the program as it is extended to the entire population of primary school children.

Chile: The Parents and Children Program (PPH). The general and interrelated objectives of PPH are: 1) enhanced child development, 2) personal growth of adults, and 3) community participation. To achieve these goals, weekly meetings are organized in participating rural communities in the Osorno area of Southern Chile (originally 50 communities, now approximately 200). The meetings are timed to coincide with a radio broadcast over a local radio station which uses radio dramas and other devices to pose a problem and to stimulate discussion.

Discussions at the meetings centered, originally, around different aspects of the upbringing of children. Topics include how to help children learn to talk, to read, and to count; human relations in the family; nutrition and how to make the best use of food supplies; food preservation; alcohol abuse. These topics have broadened to include questions related directly to earning a livelihood. Materials related to each theme supplement the radio presentation of the problem. The discussions, which are led by a local "promotor" chosen by the community, lead to suggestions and plans for community action in the various areas.

Within the project, the child development goal is also promoted through pre-school exercises for children in the form of worksheets. These worksheets are designed to enhance perception, thinking skills, use of symbols, creativity, curiosity, and the motivation to learn. Parents go over the materials in their meeting, then take them home for the children who (sometimes with the help of adults) complete the worksheets to be taken back to the next weekly meeting.

Assisting the development and implementation of the PPH are staff members of a non-governmental organization (Centro de Investigacion y Desarrollo de la Educacion). CIDE works closely with the local radio station.

An evaluation of the program has shown positive effects on the children, on their parents, and on the community at large. Children participating in PPH score better on readiness tests and do better in school than those who have not participated. The evaluation identified changes in adult attitudes and perceptions, evident from their descriptions of the project itself, the way they spoke about changes, the ease with which they reached agreements, and their ability to act on conclusions. The basic change identified was from "apathy" to participation in constructive activities as a sense of self-worth was strengthened.

The cost per child per month of the program was calculated as US$6.38. A high-quality kindergarten was costed at six times that amount and the cost of a low-quality day-care center at double the amount. A minimum wage was five times the monthly cost. If the calculation is made on a per-person basis (rather than a per-child basis), the cost amounted to US$1.62 per person per month. These costs do not count time donated by the community. In brief, community participation brought both benefits and lowered costs.

C. Promote Community Development

Example of Technical Mobilization

Malaysia: Sang Kancil Project. The project was begun in 1978 by the health sector in an attempt to meet the health needs of those living in urban squatter settlements. Those involved in the project began by listening to the community. Rather than building a health center first, they established a pre-school and an income generating project. When these were well established, then it was possible to introduce primary health care.

Example of Social Mobilization

Thailand: Integrated Nutrition and Community Development Project. Analyses by the Ministry of Health in Thailand pointed to three major constraints to significant reduction in the level of protein energy malnutrition (PEM) in infants and preschool children: 1) the inadequate coverage of the health system, 2) the lack of community awareness of the problem, and 3) the inadequate multi-sectorial input into the nutrition program. Studies had shown also that, by themselves, income-generating projects did not necessarily have an impact on the problem. Accordingly, the government, in 1979, introduced a program of community-based primary health care together with a program of growth monitoring, accompanied by a supplementary food program and nutrition education, all within a national plan for poverty alleviation.

Within this broad framework, the Institute of Nutrition at Mahidol University carried out a nutrition education project that was directed toward families with the most vulnerable infants and preschoolers. An important part of that nutrition education was a psycho-social component focussing on caregiver-child interactions and on improvements in the physical and social environment surrounding the child.

As a basis for the project, childrearing attitudes and practices were studied. A number of nutritional and social taboos were discovered that were not beneficial to the child. For instance, a misbelief about colostrum and early suckling was associated with failure to begin breastfeeding immediately following birth. In addition, it was found that few mothers recognized the visual or auditory abilities of a baby at birth. Mothers displayed little awareness of their own capacity to make a difference in their child's development by making use of existing resources to create a more nurturing environment.

With these practices in mind, a series of five interactive video was created. One of the five was specifically oriented toward child development, aimed at creating maternal awareness of her child as an individual with early perceptual ability, and at recognizing the importance of play and of mother-child interaction in that play and in supplementary feeding. A second video compared two 15-month old boys, one malnourished, the other normal, identifying behavioral as well as nutritional differences. Health communicators in each village, who served as distributors of supplementary foods, were trained in the use of the videos which were presented several times in each village.

On the basis of interviews with mothers of under-two children, and of observations in the home, evaluators of the project concluded that maternal knowledge about, and attitudes toward infants' ability to see were significantly more positive after seeing the videos. More open cradles were found during home visits. More colostrum was given. The results suggest that visual messages provided a way that permits discussion, can bring about significant changes in childrearing beliefs and practices.

This project illustrates how both nutrition and psycho-social education components can be incorporated into a national program of growth monitoring and targeted supplementary feeding with good results, using a method that does not depend on literacy and taking into account local practices.

D. Develop Institutional Resources and Capacities

Kenya: District Centers for Early Childhood Education (DICECE). A national training program has been developed by the Kenya Institute of Education which provides training and support to the thousands of pre-school teachers operating from community-initiated preschools.

E. Create Awareness and Demand

Nigeria: Development Communications Project. This project provides an example of reaching two objectives: developing institutional resources and capacities and creating awareness through knowledge dissemination. The project pilots the use of mass media in early child development, targeted to preschool children (3-6 years) in rural and urban areas. The project will reach four million preschoolers of whom about forty percent already have access to television and for those who do not, the project will target children in child care centers in 15 Local Government Authorities in ten states. The project supports (a) design, production, dissemination and evaluation of instructional materials to preschoolers and women; (b) development of institutional capacity for materials production and educational television management and evaluation. Dissemination of instructional materials is carried out through the distribution of videos through network transmission, video-on-wheels, and local viewing centers for on site viewing and sales of video materials. The newly established Educational Television Unit of Nigerian Television Authority will produce 130 episodes for preschool children with curriculum topics ranging from development (a) of expression and comprehension; (b) of skills to observe, explore, and solve problems; (c) of pre-numeracy, pre-literacy, and social behavior skills; and (d) of basic health and hygiene habits. The project costs US$10.23 million, which finance the production and distribution of instructional materials, institutional capacity building of the educational television unit (including building, staff, and equipping the unit), and technical assistance for testing and evaluation of the media model. The project will be implemented during 1994-1998.

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